SAFETY DATA SHEET
Date: July 19, 2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Lumitein Protein Gel Stain, 100x
Catalog Number: 21002/21002-1/21002-2
Unit Size: 2mL/10mL/50mL
Manufacturer/Supplier: Biotium, Inc.
46117 Landing Parkway, Fremont, CA 94538, USA
Phone: 1-510-265-1027, Fax: 1-510-265-1352
Web: http://www.biotium.com

2. HAZARDS IDENTIFICATION

Classification according to Regulation (EC) No 1272/2008[CLP]
Flammable liquids (Category 2)
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 3)
Specific target organ toxicity - single exposure (Category 1)
Skin corrosion (Category 1A)
Serious eye damage (Category 1)
Skin sensitization (Category 1)
Acute aquatic toxicity (Category 3)

Labeling according to Regulation (EC) No 1272/2008[CLP]

Signal word Danger

Hazard statements
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour
H303 May be harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled
H370 Causes damage to organs.
H402 Harmful to aquatic life.

Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 Wear protective gloves/ protective clothing.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P307+P311 IF exposed: Call a POISON CENTER or doctor/physician.

HMIS Classification
Health hazard: 3
Flammability: 3
Physical hazards: 0

NFPA Rating
Health hazard: 3
Fire: 3
Reactivity Hazard: 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Index No.</th>
<th>Weight %</th>
<th>Classification according to regulation (EC)No 1278/2008</th>
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</thead>
<tbody>
<tr>
<td>Methanol</td>
<td>67-56-1</td>
<td>200-659-6</td>
<td>603-001-00-X</td>
<td>0-30%</td>
<td>See section 2</td>
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<tr>
<td>Acetic acid</td>
<td>64-19-7</td>
<td>200-580-7</td>
<td>607-002-00-6</td>
<td>0-30%</td>
<td>See section 2</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide, dry chemical extinguishers, foam extinguishers or water.

Special protective equipment for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
Personal precautions
Avoid breathing vapors, mist or gas. Remove all sources of ignition.

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

Methods and materials for containment and cleaning up
Contain spillage. Soak up spilled substance with inert absorbent material. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid inhalation of vapor or mist.
Avoid direct contact with substance.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place.
Store at room temperature or 4 °C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters
Substance Acetic acid
CAS no. 64-19-7

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<tr>
<th>country</th>
<th>Austria</th>
<th>Belgium</th>
<th>Denmark</th>
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<th>USA-OSHA</th>
<th>Australia</th>
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<th>South Korea</th>
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Substance Methanol
CAS no. 67-56-1

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9. PHYSICAL AND CHEMICAL PROPERTIES

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<thead>
<tr>
<th>Chemical Name</th>
<th>Lumitein Protein Gel Stain, 100x</th>
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<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
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<tr>
<td>Odor</td>
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<td>Boiling point</td>
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<td>Flash point</td>
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<td>Flammability</td>
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<td>Explosive limits</td>
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<tr>
<td>Vapor pressure</td>
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<td>Vapor density</td>
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<td>Relative density</td>
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<td>Decomposition temperature</td>
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<tr>
<td>Oxidizing properties</td>
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</table>
10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
No data available

Conditions to avoid
Heat, flames and sparks.

Materials to avoid
No data available

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Methanol
Oral LD50  LD50 Oral - Human - 143 mg/kg
LD50 Oral - rat - 1,187 - 2,769 mg/kg
Inhalation LC50  LC50 Inhalation - rat - 4 h - 128.2 mg/l
LC50 Inhalation - rat - 6 h - 87.6 mg/l
Dermal LD50  LD50 Dermal - rabbit - 17,100 mg/kg

Other information on acute toxicity - no data available

Acetic acid
Oral LD50  LD50 Oral - rat - 3,310 mg/kg
Inhalation LC50  LC50 Inhalation - mouse - 1 h - 5620 ppm
LC50 Inhalation - rat - 4 h - 11.4 mg/l
Dermal LD50  LD50 Dermal - rabbit - 1,112 mg/kg

Other information on acute toxicity - no data available

Skin corrosion/irritation - no data available

Serious eye damage/eye irritation
Eyes - rabbit - Corrosive to eyes

Respiratory or skin sensitization
May cause sensitization by skin contact

Germ cell mutagenicity - no data available

Carcinogenicity
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.

Reproductive toxicity - no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
Causes damage to organs.

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
no data available

Aspiration hazard
no data available

Potential health effects
Inhalation May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion May be harmful if swallowed.
Skin May be harmful if absorbed through skin. May cause skin irritation.
Eyes May cause eye irritation.

Additional Information
RTECS: Methanol PC1400000
Acetic acid AF1225000

12. ECOLOGICAL INFORMATION

Toxicity
Methanol Toxicity to fish mortality LC50 - Lepomis macrochirus (Bluegill) - 15,400.0 mg/l - 96 h
NOEC - Oryzias latipes - 7,900 mg/l - 200 h
Toxicity to daphnia EC50 - Daphnia magna (Water flea) - > 10,000.00 mg/l - 48 h
Toxicity to algae Growth inhibition EC50 - Scenedesmus capricornutum (fresh water algae) - 22,000.0 mg/l-96h
Acetic acid Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1,000 mg/l - 96 h
Toxicity to daphnia EC50 - Daphnia magna (Water flea) - > 300.82 mg/l - 48 h

Persistence and degradability
Methanol aerobic Result: 72 % - rapidly biodegradable
Acetic acid aerobic Result: 99 % - Readily biodegradable.

Mobility in soil
no information available

Results of PBT and vPvB assessment
no information available

Other adverse effects
no information available

Additional information
no information available

13. DISPOSAL CONSIDERATIONS

Do not dispose product directly into sewage. Consult local state or national regulation for proper disposal.

14. TRANSPORT INFORMATION

IATA, IMDG, DOT(US) not dangerous good during transportation
UN number none
UN proper shipping name none
Transport hazard class none
Packing group none
Environmental hazards none
Special precaution for user none
15. REGULATION INFORMATION

**US Federal Regulations**
Us Toxic Substances Control Act (TSCA): Not listed
SARA 302: No chemicals were found.
SARA 313: No chemicals were found.
SARA 311/312 Hazards: No chemicals were found.

16. OTHER INFORMATION

Classification according to Regulation (EC) Nr. 1272/2008

Prepared by: Regulatory Department
Biotium Inc.

Version no. 2
Reason for revision Application of CLP labeling and corresponding requirements

The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.