SAFETY DATA SHEET

Date Revised: July 6, 2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: CellBrite Cytoplasmic Membrane Dyes
Catalog Number: 30021, 30022, 30023
Unit Size: 1 mL
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]
Flam. Liq. 2
Classification according to Directive 1999/45/EC
None

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

Hazard pictogram

Signal word Danger
Hazard statements H225 Highly Flammable liquid and vapour; H319 Causes serious eye irritation.
Precautionary statements P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 IF eye irritation persists: Get medical advice/attention.

HMIS Classification
Health hazard: 2
Flammability: 3
Physical hazards: 0

NFPA Rating
Health hazard: 2
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 67/548/EEC</th>
<th>Classification according to regulation (EC)No1278/2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>200-578-6</td>
<td>603-002-00-5</td>
<td>&gt;99%</td>
<td>F; R11</td>
<td>Flam. Liq. 2</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

**General advice**
Remove affected clothing and launder before reuse.

**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.

6. ACCIDENTAL RELEASE MEASURES

**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**
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters
Substance: Ethanol
CAS no. 64-17-5

<table>
<thead>
<tr>
<th>country</th>
<th>Austria</th>
<th>Belgium</th>
<th>Denmark</th>
<th>European Union</th>
<th>France</th>
<th>Germany</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit value, 8 hours</td>
<td>1000 ppm 1900 mg/m³</td>
<td>1000 ppm 1907 mg/m³</td>
<td>1000 ppm 1900 mg/m³</td>
<td>--</td>
<td>1000 ppm 1900 mg/m³</td>
<td>500 ppm 960 mg/m³</td>
</tr>
<tr>
<td>Limit value, short term</td>
<td>2000 ppm 3800 mg/m³</td>
<td>--</td>
<td>2000 ppm 3800 mg/m³</td>
<td>--</td>
<td>5000 ppm 9500 mg/m³</td>
<td>1000 ppm (1) 1920 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>country</th>
<th>Hungary</th>
<th>Italy</th>
<th>Poland</th>
<th>Spain</th>
<th>Sweden</th>
<th>Netherlands</th>
<th>Switzerland</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit value, 8 hours</td>
<td>1900 mg/m³</td>
<td>--</td>
<td>1900 mg/m³</td>
<td>--</td>
<td>500 ppm 1000 mg/m³</td>
<td>260 mg/m³</td>
<td>500 ppm 960 mg/m³</td>
</tr>
<tr>
<td>Limit value, short term</td>
<td>7600 mg/m³</td>
<td>--</td>
<td>--</td>
<td>1000 ppm 1910 mg/m³</td>
<td>1000 ppm (1) 1900 mg/m³ (1)</td>
<td>1900 mg/m³</td>
<td>1000 ppm 1920 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>country</th>
<th>United Kingdom</th>
<th>USA-NIOSH</th>
<th>USA-OSHA</th>
<th>Australia</th>
<th>Canada</th>
<th>Japan</th>
<th>South Korea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit value, 8 hours</td>
<td>1000 ppm 1920 mg/m³</td>
<td>1000 ppm 1900 mg/m³</td>
<td>1000 ppm 1880 mg/m³</td>
<td>1000 ppm 1880 mg/m³</td>
<td>--</td>
<td>1000 ppm 1900 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Limit value, short term</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

Remarks
Germany (AGS) (1) 15 minutes average value
Sweden (1) Short-term value, 15 minutes average value

**Personal protective equipment**

**Hand protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Respiratory protection**
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Eye protection**
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Hygiene measures**
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CellBrite Cytoplasmic Membrane Dyes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporate rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No information available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information available</td>
</tr>
</tbody>
</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, sulfur oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Substance: Ethanol, CAS no. 64-17-5

Acute toxicity

<table>
<thead>
<tr>
<th>Route</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
<td>3450 mg/kg 4 hours (mouse)</td>
</tr>
<tr>
<td>Inhalation LC50</td>
<td>39000 mg/m3 4 hours (mouse)</td>
</tr>
<tr>
<td>Dermal LD50</td>
<td>20000 mg/kg 4 hours (rabbit)</td>
</tr>
</tbody>
</table>

Other information on acute toxicity
no data available
Skin corrosion/irritation may cause skin irritation
Serious eye damage/eye irritation may cause eye irritation
Respiratory or skin sensitization no data available

Germ cell mutagenicity
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 Experiments have shown reproductive toxicity effects on laboratory animals
Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available
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: KQ6300000 (Ethanol)

12. ECOLOGICAL INFORMATION

Substance: Ethanol, CAS no. 64-17-5

Toxicity 14000 mg/l 96 hours (Rainbow trout); 11200 mg/l 24 hours (fingerling trout)
Persistence and degradability no information available
Biodegradation 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) Flammable liquid 3
UN number 1170
UN proper shipping name Ethanol
Transport hazard class 3
Packing group II
Environmental hazards none
Special precaution for user none

15. REGULATION INFORMATION

US Federal Regulations
Us Toxic Substances Control Act (TSCA): Listed
SARA 302: No chemicals were found.
SARA 313: No chemicals were found.
SARA 311/312 Hazards:
Acute Health Hazard: Yes
Chronic Health Hazard: Yes
Fire Hazard: Yes
Sudden Release of Pressure Hazard: No
Reactive Hazard: No

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 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.