SAFETY DATA SHEET
Date Revised: February 13, 2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: PMA dye, 20 mM in water
Catalog Number: 40019
Unit Size: 100 uL
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]
None
Classification according to Directive 1999/45/EC
None

Labeling according to Regulation (EC) No 1272/2008[CLP]
Hazard pictogram None
Signal word None
Hazard statements None
Precautionary statements None

HMIS Classification
Health hazard: 0
Flammability: 0
Physical hazards: 0
NFPA Rating
Health hazard: 0
Fire: 0
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>
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<td>Water</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>1%</td>
<td>-</td>
<td>-</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.

### 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**
Keep container tightly closed in a dry and well-ventilated place. Store at -20 °C. Protect from light.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**
Substance: PMA dye, 20 mM in water
Control parameter: No information available

**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>PMA dye, 20 mM in water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Red liquid</td>
</tr>
<tr>
<td>Odor</td>
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<tr>
<td>Odor threshold</td>
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<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>
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</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>
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<tr>
<td>Relative density</td>
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<tr>
<td>Solubility</td>
<td>Soluble in water</td>
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<td>Partition coefficient:n-octanol/water</td>
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<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
Other decomposition products - no data available

### 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
- Oral LD50: None
- Inhalation LC50: None
- Dermal LD50: None
Other information on acute toxicity
no data available

Skin corrosion/irritation  no data available
Serious eye damage/eye irritation no data available
Respiratory or skin sensitzation no data available
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)
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: None

12. ECOLOGICAL INFORMATION

Toxicity  no information available
Persistence and degradability  no information available
Biodegradation  no information available
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
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.
SAFETY DATA SHEET
Date Revised: March 21, 2016

1. PRODUCT AND COMPANY IDENTIFICATION
   
   **Product Name:** Forget-Me-Not™ qPCR Master Mix
   **Catalog Number:** 99801
   **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](http://www.biotium.com)

2. HAZARDS IDENTIFICATION

   **Classification according to Regulation (EC) No 1272/2008[CLP]**
   None

   **Classification according to Directive 1999/45/EC**
   None

   **Labeling according to Regulation (EC) No 1272/2008[CLP]**
   **Hazard pictogram** None
   **Signal word** None
   **Hazard statements** None
   **Precautionary statements** None

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS
   No ingredients present at concentrations classified as hazardous to health or the environment.

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.

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**
Keep container tightly closed in a dry and well-ventilated place.
Store at -20°C.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Components with workplace control parameters**
Substance: none
CAS no.: none
Control parameters: None

**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>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Name</td>
<td>Forget-Me-Not qPCR Master Mix</td>
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<tr>
<td>Appearance</td>
<td>Clear liquid</td>
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<td>Odor</td>
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<td>pH</td>
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<td>Boiling point</td>
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</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporate rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
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<td>Vapor density</td>
<td>No data available</td>
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<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Water soluble</td>
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<tr>
<td>Partition coefficient:n-octanol/water</td>
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<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data 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**
No data available.

**Materials to avoid**
No data available

**Hazardous decomposition products**
No data available
Other decomposition products - no data available

### 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
- Oral LD50: None
- Inhalation LC50: None
- Dermal LD50: None

**Other information on acute toxicity**
No data available
12. ECOLOGICAL INFORMATION

Toxicity no information available
Persistence and degradability no information available
Biodegradation no information available
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 during transportation

SDS PSF008
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 Correction to hazard classification.

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.
SAFETY DATA SHEET
Date Revised: March 21, 2016

1. PRODUCT AND COMPANY IDENTIFICATION
   
   **Product Name:** ROX Reference Dye
   **Catalog Number:** 31042C
   **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](http://www.biotium.com)

2. HAZARDS IDENTIFICATION
   
   **Classification according to Regulation (EC) No 1272/2008[CLP]**
   None
   **Classification according to Directive 1999/45/EC**
   None
   **Labelling according to Regulation (EC) No 1272/2008[CLP]**
   **Hazard pictogram** None
   **Signal word** None
   **Hazard statements** None
   **Precautionary statements** None

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS
   
   No ingredients present at concentrations classified as hazardous to health or the environment.

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
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
Keep container tightly closed in a dry and well-ventilated place.
Store at -20 °C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters
None

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>ROX Reference Dye</th>
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</thead>
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<tr>
<td>Appearance</td>
<td>Pink solution</td>
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<tr>
<td>pH</td>
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<tr>
<td>Melting point/freezing point</td>
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</tbody>
</table>
10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
No data available

**Conditions to avoid**
No data available.

**Materials to avoid**
No data available

**Hazardous decomposition products**
No data available

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

<table>
<thead>
<tr>
<th>Route</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Oral LD50</td>
<td>None</td>
</tr>
<tr>
<td>Inhalation LC50</td>
<td>None</td>
</tr>
<tr>
<td>Dermal LD50</td>
<td>None</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
No data available

**Serious eye damage/eye irritation**
No data available

**Respiratory or skin sensitization**
No data available

**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)**
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: None

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# 12. ECOLOGICAL INFORMATION

**Toxicity**

no information available

**Persistence and degradability**

no information available

**Biodegradation**

no information available

**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

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# 13. DISPOSAL CONSIDERATIONS

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

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# 14. TRANSPORT INFORMATION

**IATA, IMDG, DOT (US)**

not dangerous 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

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# 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 Correction to hazard classification.

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.
SAFETY DATA SHEET  
Date Revised: February 13, 2014

1. PRODUCT AND COMPANY IDENTIFICATION  
   Product Name: groEL2 Primer Mix, 5 uM  
   Catalog Number: 31034A  
   Unit Size: 400 uL  
   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]  
   None  
   Classification according to Directive 1999/45/EC  
   None  
   Labelling according to Regulation (EC) No 1272/2008[CLP]  
   Hazard pictogram None  
   Signal word None  
   Hazard statements None  
   Precautionary statements None

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

   NFPA Rating  
   Health hazard: 0  
   Fire: 0  
   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>DNA oligonucleotide</td>
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<td>Water</td>
<td>7732-18-5</td>
<td>--</td>
<td>--</td>
<td>&gt;99.9%</td>
<td>--</td>
<td>--</td>
</tr>
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</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.

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
Keep container tightly closed in a dry and well-ventilated place. Store at -20 °C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>country</td>
<td>Austria</td>
</tr>
<tr>
<td>Limit value, 8 hours</td>
<td>--</td>
</tr>
<tr>
<td>Limit value, short term</td>
<td>--</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>--</td>
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<td>--</td>
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<td>Limit value, short term</td>
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<td>--</td>
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</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>
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</thead>
<tbody>
<tr>
<td>Limit value, 8 hours</td>
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<td>--</td>
</tr>
</tbody>
</table>
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>Description</th>
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<tbody>
<tr>
<td>groEL2 Primer Mix, 5 uM</td>
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<tr>
<td>Appearance</td>
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<td>Odor</td>
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<tr>
<td>Odor threshold</td>
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<tr>
<td>pH</td>
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<tr>
<td>Melting point/freezing point</td>
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<tr>
<td>Boiling point</td>
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<tr>
<td>Flash point</td>
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<td>Evaporate rate</td>
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<tr>
<td>Flammability</td>
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<tr>
<td>Explosive limits</td>
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<tr>
<td>Vapor pressure</td>
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<tr>
<td>Vapor density</td>
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<tr>
<td>Relative density</td>
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<td>Soluble in water</td>
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<td>Partition coefficient:n-octanol/water</td>
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<tr>
<td>Auto-ignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>Explosive properties</td>
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</tr>
<tr>
<td>Oxidizing properties</td>
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</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
11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50 None
Inhalation LC50 None
Dermal LD50 None
Other information on acute toxicity no data available

Skin corrosion/irritation no data available
Serious eye damage/eye irritation no data available
Respiratory or skin sensitization no data available
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.

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available
Specific target organ toxicity - repeated exposure (Globally Harmonized System)
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: None

12. ECOLOGICAL INFORMATION

Toxicity no information available
Persistence and degradability no information available
Biodegradation no information available
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.