SAFETY DATA SHEET
Date Revised: May 8, 2013

1. PRODUCT AND COMPANY IDENTIFICATION

   Product Name:   PMA
   Catalog Number: 40013
   Unit Size:      1mg
   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>
</thead>
<tbody>
<tr>
<td>PMA</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>≥90%</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 4°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters
Substance  PMA
CAS no.  None
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</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Red Solid</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>Soluble in DMSO or DMF</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>Oxidising 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
11. **TOXICOLOGICAL INFORMATION**

<table>
<thead>
<tr>
<th>Acute toxicity</th>
<th></th>
</tr>
</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>

**Other information on acute toxicity**

- 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

12. **ECOLOGICAL INFORMATION**

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>No information available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability</td>
<td>No information available</td>
</tr>
<tr>
<td>Biodegradation</td>
<td>No information available</td>
</tr>
<tr>
<td>Mobility in soil</td>
<td>No information available</td>
</tr>
<tr>
<td>Results of PBT and vPvB assessment</td>
<td>No information available</td>
</tr>
<tr>
<td>Other adverse effects</td>
<td>No information available</td>
</tr>
<tr>
<td>Additional information</td>
<td>No information available</td>
</tr>
</tbody>
</table>
13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>IATA, IMDG, DOT(US)</th>
<th>not dangerous good during transportation</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN number</td>
<td>none</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>none</td>
</tr>
<tr>
<td>Transport hazard class</td>
<td>none</td>
</tr>
<tr>
<td>Packing group</td>
<td>none</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>none</td>
</tr>
<tr>
<td>Special precaution for user</td>
<td>none</td>
</tr>
</tbody>
</table>

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.