Material Safety Data Sheet
Version No.: 1.0(Revision 2012-11-30)

S. pombe Deletion Mutant Library

1. Chemical Product and Company Identification

Product Name
s.pombe deletion library (yeast), Active Plasmid

Company Name & Address
Bioneer Corporation
49-3, Munpyeong-dong,
Daedeok-gu, Daejeon 306-220
Korea
Tel.: +82-42-930-8508
Fax: +82-42-930-8600

NOTE: If this product is a kit or is supplied with more than one material, please refer to the MSDS for each component for hazard information.

Product USE:
This products are for laboratory research use only and are not intended for human or animal diagnostics, therapeutic, or other clinical use.

2. Hazards Identification

<Emergency Overview>
Occupational exposure presents little or no health hazard

Potential Health Effects:
Eye:
May cause irritation of the eye.

Skin:
May cause skin irritation.

Inhalation:
No toxicity expected from inhalation.

Ingestion:
Mildly irritating to mouth, throat, and stomach. Can cause abdominal discomfort.

Chronic:
No data on cancer.

3. Composition/Information on Ingredients

The following list shows components of this product classified as hazardous based on physical properties and health
effects:
Component CAS NO. Percent
No hazardous components.

4. First-Aid Measures
   Eye:
   Fluse with water in an eyewash for at least 15 minutes, holding eyelids open. Remove contact lenses, clean before re-use. Obtain medical attention if symptoms develop (redness, itching, etc.).
   Skin:
   Wash with plenty of soap and water. Obtain medical attention if symptoms develop (redness, itching, etc.). Remove contaminated Clothes, wash before re-use.
   Inhalation:
   Remove person to fresh air. Obtain medical attention unless effects are mild and temporary.
   Ingestion:
   Give plenty of water, if conscious. If vomiting occurs naturally, wash mouth out. Be prepared to induce vomiting upon a physician’s advice. Obtain medical attention if symptoms develop.
   Note to Physician: Treat symptomatically.

5. Fire-Fighting Measures
   Flashpoint Deg C: Not Available
   Upper Flammable Limit %: Not Available
   Lower Flammable Limit %: Not Available
   Autoignition Temperature Deg C: Not Available

   Extinguishing Media:
   Use means appropriate for surrounding materials.
   Firefighting Techniques / Equipment:

   Hazardous Combustion Products:
   Includes carbon dioxide, carbon monoxide, dense smoke

6. Accidental Release Measures
   Accidental releases may be subject to special reporting requirements and other regulatory mandates. Refer to section 8 personal protection equipment recommendations.
   Spill Cleanup:
   Absorb spill: Common absorbent materials should be effective. Deposit in appropriate containers for removal and disposal.

7. Handling and Storage
   Storage of some material is regulated by federal, state, and /or local laws.
   Storage pressure: Ambient
   Handling Procedures: Keep closed or covered when not in use.
Storage Procedures: Suitable for most general chemical storage areas.

8. Exposure Controls and Personal Protection

Exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>OSHA PEL (ppm)</th>
<th>AGCIH TWA (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Hazardous components</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Engineering Controls:
Area ventilation is generally adequate.

Personal Protective Equipment

Eye:
Safety goggles (glasses).

Skin:
Protective gloves, a lab coat.

Respiratory:
No respiratory protection will be needed under normal industrial operating conditions.

9. Physical and Chemical Properties

Appearance / physical state: Liquid solution / suspension

Odor: No odor

Specific Gravity / Density: 1.00

Octanol / water partition coeff: Not established.

Volatile: Not established.

Evaporation Rate: 0.3 (BUTYLY Acetate = 1.0)

Viscosity: 0.98 cp at 20C

10. Stability and Reactivity

Stability
Stable under ordinary conditions of use and storage.

Conditions to Avoid: Strong oxidizers.

Hazardous Decomposition Products:
Carbon monoxide. Carbon dioxide.

Hazardous Polymerization: Not expected to occur.

11. Toxicological Information

Acute Toxicity:

Dermal/Skin: Not determined.

Inhalation/Respiratory: Not determined.

Oral / Ingestion: Not determined.

Target Organs: No data found.

Carcinogenicity:
NTP: Not tested
12. Ecological Information
No data available.

13. Disposal Consideration
Burn the material in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal state and local environmental regulations.

14. Transport Information
Not regulated.

15. Regulatory Information
UNITED STATES:
TSCA:
This product is solely for research and development purpose only and may not be used, processed or distributed for a commercial purpose. It may only be handled by technically qualified individuals.

Prop 65 Listed Chemicals: PROP 65 PERCENT
No Prop 65 Chemicals.
No 313 Chemicals.

CANADA
DSL/NDSL: Not determined.
Component WHMIS Classification
No Hazardous components

EUROPEAN UNION:
Product risk phrases: None assigned.
Product safety phrases: Not applicable.
Product Classification: Not Classification as hazardous
Component EINECS Number
No hazardous components

16. Other Information
HMIS Rating 0-4:
Fire: Not Determined
Health: Not Determined
Reactivity: Not Determined

Abbreviations
N/A – Data is not applicable or not available
SARA – Superfund and Reauthorization Act
HMIS – Hazard Material Information System
WHMIS – Workplace Hazard Material Information System
NTP – National Toxicology Program
OSHA – Occupational Agency for Research on Cancer
IARC – International Agency for Drinking Water and Toxic Enforcement Act of 1986
PROP 65 – California Inventory of Existing Commercial Chemical Substances

This information is based on our present knowledge and shall be used only as a guide. However, this shall not constitute a guarantee for any specific product features. BIONEER is not held liable for any damage resulting from handling or contact with the above product.