### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Trade name</th>
<th>HEPES, 1M BUFFER SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product code</td>
<td>AB06021</td>
</tr>
</tbody>
</table>

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

| Use of the substance/mixture | Laboratory use/Manufacturing component/Research |

#### 1.3. Details of the supplier of the safety data sheet

AmericanBio, Inc.
15 Erie Dr.
Natick, MA 01760 - USA
T 800.443.0600 - F 508.655.2754
info@americanbio.com - www.americanbio.com

#### 1.4. Emergency telephone number

| Emergency number | 855.835.2572 (U.S.) :: 760.602.8703 (Outside U.S.) |

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

**Classification (GHS-US)**
Not classified

#### 2.2. Label elements

**GHS-US labeling**
No labeling applicable

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

Full text of H-phrases: see section 16

#### 3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>water, reagent grade, usp purified</td>
<td>(CAS No) 7732-18-5</td>
<td>75 - 85</td>
<td>Not classified</td>
</tr>
<tr>
<td>4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid (hepes)</td>
<td>(CAS No) 7365-45-9</td>
<td>15 - 25</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**First-aid measures general**: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

**First-aid measures after inhalation**: Assure fresh air breathing. Allow the victim to rest.

**First-aid measures after skin contact**: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

**First-aid measures after eye contact**: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.

**First-aid measures after ingestion**: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries: Not expected to present a significant hazard under anticipated conditions of normal use.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available
SECTION 5: Firefighting measures

5.1. Extinguishing media


Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Avoid (reject) fire-fighting water to enter environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Provide good ventilation in process area to prevent formation of vapor.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Direct sunlight. Keep container closed when not in use.

Incompatible products : Strong bases. strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : Wear approved mask.

Other information : When using, do not eat, drink or smoke.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Colorless.
## Odor
- Odor: characteristic.
- Odor threshold: No data available

## pH
- pH: No data available

## Relative evaporation rate (butyl acetate=1)
- Relative evaporation rate: No data available

## Melting point
- Melting point: No data available

## Freezing point
- Freezing point: No data available

## Boiling point
- Boiling point: No data available

## Flash point
- Flash point: No data available

## Self ignition temperature
- Self ignition temperature: No data available

## Decomposition temperature
- Decomposition temperature: No data available

## Flammability (solid, gas)
- Flammability: No data available

## Vapor pressure
- Vapor pressure: No data available

## Relative vapor density at 20 °C
- Relative vapor density: No data available

## Relative density
- Relative density: No data available

## Log Pow
- Log Pow: No data available

## Log Kow
- Log Kow: No data available

## Viscosity, kinematic
- Viscosity, kinematic: No data available

## Viscosity, dynamic
- Viscosity, dynamic: No data available

## Explosive properties
- Explosive properties: No data available

## Explosive limits
- Explosive limits: No data available

### 9.2. Other information
- No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity
- No additional information available

#### 10.2. Chemical stability
- Not established.

#### 10.3. Possibility of hazardous reactions
- Not established.

#### 10.4. Conditions to avoid
- Direct sunlight. Extremely high or low temperatures.

#### 10.5. Incompatible materials
- Strong acids. Strong bases.

#### 10.6. Hazardous decomposition products

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

- Acute toxicity: Not classified
- Skin corrosion/irritation: Not classified
- Serious eye damage/irritation: Not classified
- Respiratory or skin sensitization: Not classified
- Germ cell mutagenicity: Not classified
- Carcinogenicity: Not classified
- Reproductive toxicity: Not classified
- Specific target organ toxicity (single exposure): Not classified
**HEPES, 1M BUFFER SOLUTION**
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<table>
<thead>
<tr>
<th>Section</th>
<th>Topic</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specific target organ toxicity (repeated exposure)</strong></td>
<td></td>
<td>Not classified</td>
</tr>
<tr>
<td><strong>Aspiration hazard</strong></td>
<td></td>
<td>Not classified</td>
</tr>
<tr>
<td><strong>Potential Adverse human health effects and symptoms</strong></td>
<td></td>
<td>Based on available data, the classification criteria are not met.</td>
</tr>
</tbody>
</table>

### SECTION 12: Ecological information

#### 12.1. Toxicity
No additional information available

#### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEPES, 1M BUFFER SOLUTION</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

**4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid (hepes) (7365-45-9)**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEPES, 1M BUFFER SOLUTION</td>
<td>Biodegradability in water: no data available.</td>
</tr>
</tbody>
</table>

#### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEPES, 1M BUFFER SOLUTION</td>
<td>Not established.</td>
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</tbody>
</table>

**4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid (hepes) (7365-45-9)**

<table>
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<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEPES, 1M BUFFER SOLUTION</td>
<td>No bioaccumulation data available.</td>
</tr>
</tbody>
</table>

#### 12.4. Mobility in soil
No additional information available

#### 12.5. Other adverse effects

<table>
<thead>
<tr>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

<table>
<thead>
<tr>
<th>Waste disposal recommendations</th>
<th>Ecology - waste materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispose in a safe manner in accordance with local/national regulations.</td>
<td>Avoid release to the environment.</td>
</tr>
</tbody>
</table>

### SECTION 14: Transport information

In accordance with DOT
No dangerous good in sense of transport regulations

#### Additional information

<table>
<thead>
<tr>
<th>Other information</th>
</tr>
</thead>
<tbody>
<tr>
<td>No supplementary information available.</td>
</tr>
</tbody>
</table>

#### ADR

<table>
<thead>
<tr>
<th>Transport document description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
</tr>
</tbody>
</table>

Packing group (ADR): N/A
Hazard identification number (Kemler No.): N/A
Classification code (ADR): N/A

#### Transport by sea
No additional information available

#### Air transport
No additional information available

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

- **water, reagent grade, usp purified (7732-18-5)**
  
  Listed on the United States TSCA (Toxic Substances Control Act) inventory

- **4-(2-hydroxyethyl)-1-piperazineethanesulfonic acid (hepes) (7365-45-9)**
  
  Listed on the United States TSCA (Toxic Substances Control Act) inventory
15.2. International regulations

CANADA
No additional information available

EU-Regulations
No additional information available

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

Classification according to Directive 67/548/EEC or 1999/45/EC
Not classified

15.2.2. National regulations
No additional information available

15.3. US State regulations
No additional information available

SECTION 16: Other information

Other information : None.

SDS US (GHS HazCom 2012)

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