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

1.1. Product identifier
Product form: Mixture
Product name: Methylene Blue Reagent, for Surfactants
Product code: LC16970

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: For laboratory and manufacturing use only.

1.3. Details of the supplier of the safety data sheet
LabChem Inc
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number
Emergency number: CHEMTREC: 1-800-424-9300 or 011-703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
Classification (GHS-US)
Not classified

2.2. Label elements
The material is not a significant, immediate concern for Emergency Responders.

2.3. Other hazards
Other hazards not contributing to the classification: None under normal conditions.

2.4. Unknown acute toxicity (GHS US)
Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable

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</td>
<td>(CAS No) 7732-18-5</td>
<td>94.967</td>
<td>Not classified</td>
</tr>
<tr>
<td>Sodium Phosphate, Monobasic, Anhydrous</td>
<td>(CAS No) 7558-80-7</td>
<td>4.35</td>
<td>Not classified</td>
</tr>
<tr>
<td>Sulfuric Acid</td>
<td>(CAS No) 7664-93-9</td>
<td>0.68</td>
<td>Skin Corr. 1A, H314, Eye Dam. 1, H318</td>
</tr>
<tr>
<td>Methylene Blue</td>
<td>(CAS No) 61-73-4</td>
<td>0.003</td>
<td>Acute Tox. 4 (Oral), H302, Aquatic Acute 2, H401</td>
</tr>
</tbody>
</table>

Full text of H-phrases: see section 16

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: Allow victim to breathe fresh air. 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

Obtain medical assistance.

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. Prevent fire-fighting water from entering 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

Protective equipment: Safety glasses. Gloves.

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 eating, drinking or smoking 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 container closed when not in use.

Incompatible products: None known.

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylene Blue Reagent, for Surfactants</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Methylene Blue (61-73-4)</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Sodium Phosphate, Monobasic, Anhydrous (7558-80-7)</td>
<td>Not applicable</td>
<td></td>
</tr>
</tbody>
</table>
Methylene Blue Reagent, for Surfactants
Safety Data Sheet

SECTION 8: Exposure controls

8.2. Exposure controls

Appropriate engineering controls: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

Personal protective equipment: Avoid all unnecessary exposure.

Hand protection: Wear protective gloves.

Eye protection: Chemical goggles or safety glasses.

Respiratory protection: Wear appropriate mask.

Other information: Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid

Color: Blue

Odor: None.

Odor threshold: No data available

pH: No data available

Melting point: No data available

Freezing point: No data available

Boiling point: No data available

Flash point: No data available

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

Flammability (solid, gas): No data available

Explosion limits: No data available

Explosive properties: No data available

Oxidizing properties: No data available

Vapor pressure: No data available

Relative density: No data available

Relative vapor density at 20 °C: No data available

Specific gravity / density: 1 g/ml

Solubility: Soluble in water.

Water: Solubility in water of component(s) of the mixture:

• Methylene Blue: 2.5 g/100ml
• Sulfuric Acid: No data available

Log Pow: No data available

Log Kow: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Viscosity, kinematic: No data available

Viscosity, dynamic: 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
Stable under normal conditions.

10.3. Possibility of hazardous reactions
Not established.

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

10.5. Incompatible materials
No data available.

10.6. Hazardous decomposition products
Sulfur compounds. Phosphorus oxides.

**SECTION 11: Toxicological information**

11.1. Information on toxicological effects

<table>
<thead>
<tr>
<th>Likely routes of exposure</th>
<th>Skin and eye contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

**Methylene Blue (61-73-4)**
- LD50 oral rat: 1180 mg/kg (Rat)
- ATE US (oral): 1180.000 mg/kg body weight

**Sodium Phosphate, Monobasic, Anhydrous (7558-80-7)**
- LD50 oral rat: 8290 mg/kg
- ATE US (oral): 17000.000 mg/kg body weight

**Sulfuric Acid (7664-93-9)**
- LD50 oral rat: 2140 mg/kg body weight (Rat; Experimental value)

**Water (7732-18-5)**
- LD50 oral rat: ≥ 90000 mg/kg
- ATE US (oral): 90000.000 mg/kg body weight

**Sulfuric Acid (7664-93-9)**
- Additional information: Strong inorganic acid mists containing sulfuric acid are carcinogenic to humans
- IARC group: 1 - Carcinogenic to humans
- National Toxicology Program (NTP) Status: 2 - Known Human Carcinogens
- Reproductive toxicity: Not classified
- Specific target organ toxicity (single exposure): Not classified
- Specific target organ toxicity (repeated exposure): Not classified
- Aspiration hazard: Not classified
- Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met.

**SECTION 12: Ecological information**

12.1. Toxicity
### 12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Methylene Blue (61-73-4)</th>
<th>13 mg/l (48 h; Oryzias latipes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>2.26 mg/l (48 h; Daphnia magna)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>18 mg/l (96 h; Mystus vittatus)</td>
</tr>
<tr>
<td>EC50 Daphnia 2</td>
<td>4.93 mg/l (24 h; Daphnia magna)</td>
</tr>
<tr>
<td>TLM fish 1</td>
<td>10 - 100,48 h; Poecilia reticulata</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sulfuric Acid (7664-93-9)</th>
<th>42 mg/l (96 h; Gambusia affinis)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50 Daphnia 1</td>
<td>29 mg/l (24 h; Daphnia magna)</td>
</tr>
<tr>
<td>LC50 fish 2</td>
<td>49 mg/l (48 h; Lepomis macrochirus)</td>
</tr>
<tr>
<td>TLM fish 1</td>
<td>42 mg/l (96 h; Gambusia affinis)</td>
</tr>
<tr>
<td>Threshold limit other aquatic organisms</td>
<td>6900 mg/l (24 h; Pseudomonas fluorescens)</td>
</tr>
</tbody>
</table>

#### 12.2.1. Methylene Blue Reagent, for Surfactants

- **Persistence and degradability**: Not established.
- **Biodegradability in water**: no data available. Photodegradation in the air.

#### 12.2.2. Sulfuric Acid (7664-93-9)

- **Persistence and degradability**: Biodegradability: not applicable.
- **Biochemical oxygen demand (BOD)**: Not applicable
- **Chemical oxygen demand (COD)**: Not applicable
- **ThOD**: Not applicable
- **BOD (% of ThOD)**: Not applicable

#### 12.2.3. Water (7732-18-5)

- **Persistence and degradability**: Not established.

#### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Methylene Blue (61-73-4)</th>
<th>Log Pow: 5.85 (Estimated value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not established.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sulfuric Acid (7664-93-9)</th>
<th>Log Pow: -2.20 (Estimated value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
<td>Not bioaccumulative.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water (7732-18-5)</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not established.</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

- **Effect on the global warming**: No known ecological damage caused by this product.
- **Other information**: Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

- **Waste disposal recommendations**: Dispose in a safe manner in accordance with local/national regulations.
- **Ecology - waste materials**: Avoid release to the environment.
SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated for transport

Additional information
Other information : No supplementary information available.

ADR
No additional information available

Transport by sea
No additional information available

Air transport
No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

<table>
<thead>
<tr>
<th>Chemical (CAS)</th>
<th>CAS No</th>
<th>RQ Reportable quantity, section 304 of EPA's List of Lists</th>
<th>SARA Section 302 Threshold Planning Quantity (TPQ)</th>
<th>SARA Section 311/312 Hazard Classes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfuric Acid, ACS</td>
<td>7664-93-9</td>
<td>1000 lb</td>
<td>1000 lb</td>
<td>Immediate (acute) health hazard</td>
</tr>
</tbody>
</table>

15.2. International regulations

CANADA

Methylene Blue (61-73-4)
Listed on the Canadian DSL (Domestic Substances List)
WHMIS Classification Uncontrolled product according to WHMIS classification criteria

Sodium Phosphate, Monobasic, Anhydrous (7558-80-7)
Listed on the Canadian DSL (Domestic Substances List)
WHMIS Classification Uncontrolled product according to WHMIS classification criteria

Sulfuric Acid (7664-93-9)
WHMIS Classification Class E - Corrosive Material

Water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List)
WHMIS Classification Uncontrolled product according to WHMIS classification criteria

EU-Regulations
No additional information available

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

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified

National regulations
Methylene Blue (61-73-4)
Listed on the Canadian IDL (Ingredient Disclosure List)

Sodium Phosphate, Monobasic, Anhydrous (7558-80-7)
Not listed on the Canadian IDL (Ingredient Disclosure List)

Sulfuric Acid (7664-93-9)
Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)

Water (7732-18-5)
Not listed on the Canadian IDL (Ingredient Disclosure List)

15.3. US State regulations
California Proposition 65- This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

SECTION 16: Other information
Other information : None.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>Acute Tox. 4 (Oral)</th>
<th>Acute toxicity (oral) Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Acute 2</td>
<td>Hazardous to the aquatic environment - Acute Hazard Category 2</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation Category 1</td>
</tr>
<tr>
<td>Skin Corr. 1A</td>
<td>Skin corrosion/irritation Category 1A</td>
</tr>
<tr>
<td>H302</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>H401</td>
<td>Toxic to aquatic life</td>
</tr>
</tbody>
</table>

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating
Health : 1 Slight Hazard - Irritation or minor reversible injury possible
Flammability : 0 Minimal Hazard - Materials that will not burn
Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal Protection : B
B - Safety glasses, Gloves

SDS US (GHS HazCom 2012)

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and LabChem Inc assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.