## SECTION 1: Identification

### 1.1. Identification

<table>
<thead>
<tr>
<th>Product form: Mixtures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product name: Phosphoric Acid-Sulfamic Acid Solution</td>
</tr>
<tr>
<td>Product code: LC18660</td>
</tr>
</tbody>
</table>

### 1.2. Recommended use and restrictions on use

- **Use of the substance/mixture:** For laboratory and manufacturing use only.
- **Recommended use:** Laboratory chemicals
- **Restrictions on use:** Not for food, drug or household use

### 1.3. Supplier

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: Hazard(s) identification

### 2.1. Classification of the substance or mixture

**GHS-US classification**

- **Skin corrosion/irritation**
  - Category 1C  
  - H314 - Causes severe skin burns and eye damage
- **Serious eye damage/eye irritation Category 1**  
  - H318 - Causes serious eye damage

Full text of H statements: see section 16

### 2.2. GHS Label elements, including precautionary statements

**GHS-US labeling**

<table>
<thead>
<tr>
<th>Hazard pictograms (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHS05</td>
</tr>
</tbody>
</table>

- **Signal word (GHS-US):** Danger
- **Hazard statements (GHS-US):** H314 - Causes severe skin burns and eye damage
- **Precautionary statements (GHS-US):** P260 - Do not breathe mist, vapors, spray.  
P264 - Wash exposed skin thoroughly after handling.  
P280 - Wear protective gloves, protective clothing, eye protection, face protection.  
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P305+P351+P338 - In eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a poison center or doctor/physician.  
P363 - Wash contaminated clothing before reuse.  
P405 - Store locked up.  
P501 - Dispose of contents/container to comply with local, state and federal regulations  
**If inhaled:** Remove person to fresh air and keep comfortable for breathing.

### 2.3. Other hazards which do not result in classification

**Other hazards not contributing to the classification:** None.

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

- **Not applicable**
SECTION 3: Composition/Information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>(CAS-No.) 7732-18-5</td>
<td>88</td>
<td>Not classified</td>
</tr>
<tr>
<td>Phosphoric Acid, 85% w/w</td>
<td>(CAS-No.) 7664-38-2</td>
<td>10</td>
<td>Skin Corr. 1B, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td>Sulfamic Acid, ACS</td>
<td>(CAS-No.) 5329-14-6</td>
<td>2</td>
<td>Skin Corr. 1C, H314</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Eye Dam. 1, H318</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 2, H401</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements: 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. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

First-aid measures after skin contact: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician.

First-aid measures after eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects: Causes severe skin burns and eye damage.

Symptoms/effects after eye contact: Causes serious eye damage.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media


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

5.2. Specific hazards arising from the chemical

Reactivity: Thermal decomposition generates: Corrosive vapors.

5.3. Special protective equipment and precautions for fire-fighters

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


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. Do not breathe mist, vapors, spray.

Hygiene measures: Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Comply with applicable regulations.

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


Incompatible materials: Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>OSHA PEL (TWA) (mg/m³)</th>
<th>IDLH (mg/m³)</th>
<th>NIOSH REL (TWA) (mg/m³)</th>
<th>NIOSH REL (STEL) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric Acid, 85% w/w (7664-38-2)</td>
<td>1 mg/m³</td>
<td>1000 mg/m³</td>
<td>1 mg/m³</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>Water (7732-18-5)</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfamic Acid, ACS (5329-14-6)</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls

Appropriate engineering controls: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:


Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or face shield

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:
Respiratory protection not required in normal conditions

**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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>None.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<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, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</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>

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Thermal decomposition generates: Corrosive vapors.

#### 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


#### 10.6. Hazardous decomposition products

Phosphorus oxides. Sulfur compounds.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Likely routes of exposure: Skin and eye contact
## Acute toxicity

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Water (7732-18-5)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>≥ 90000 mg/kg</td>
</tr>
<tr>
<td>ATE US (oral)</td>
<td>90000 mg/kg body weight</td>
</tr>
<tr>
<td>Sulfamic Acid, ACS (5329-14-6)</td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>3160 mg/kg bw/day (Rat; Literature study)</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
<td>&gt; 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)</td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation
- Causes severe skin burns and eye damage.

### 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.
- Causes serious eye damage.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Phosphoric Acid, 85% w/w (7664-38-2)
- LC50 fish 1: 138 mg/l (LC50)

#### Sulfamic Acid, ACS (5329-14-6)
- EC50 Daphnia 1: 1.6 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Semi-static system; Fresh water; Experimental value)
- LC50 fish 2: 70.3 mg/l (LC50; Equivalent or similar to OECD 203; 96 h; Pimephales promelas; Static system; Fresh water; Experimental value)
- Threshold limit algae 1: 48 mg/l (ErC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Desmodesmus subspicatus; Static system; Fresh water; Experimental value)

### 12.2. Persistence and degradability

#### Phosphoric Acid-Sulfamic Acid Solution
- Persistence and degradability: Not established.

#### Phosphoric Acid, 85% w/w (7664-38-2)
- Persistence and degradability: Biodegradability: not applicable. No test data on mobility of the components available.
- Biochemical oxygen demand (BOD): Not applicable
- Chemical oxygen demand (COD): Not applicable
- ThOD: Not applicable

#### Water (7732-18-5)
- Persistence and degradability: Not established.

#### Sulfamic Acid, ACS (5329-14-6)
- Persistence and degradability: Biodegradability: not applicable. Biodegradability in soil: not applicable. No test data on mobility of the substance available.
- Biochemical oxygen demand (BOD): Not applicable
- Chemical oxygen demand (COD): Not applicable
- ThOD: Not applicable
### 12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phosphoric Acid-Sulfamic Acid Solution</td>
<td>Not established.</td>
</tr>
<tr>
<td>Phosphoric Acid, 85% w/w (7664-38-2)</td>
<td>Not bioaccumulative.</td>
</tr>
<tr>
<td>Water (7732-18-5)</td>
<td>Not established.</td>
</tr>
<tr>
<td>Sulfamic Acid, ACS (5329-14-6)</td>
<td>Low potential for bioaccumulation (Log Kow &lt; 4).</td>
</tr>
</tbody>
</table>

### 12.4. Mobility in soil

<table>
<thead>
<tr>
<th>Substance</th>
<th>Ecology - soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfamic Acid, ACS (5329-14-6)</td>
<td>Toxic to flora.</td>
</tr>
</tbody>
</table>

### 12.5. Other adverse effects

Other information: Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

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

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

- Transport document description: UN1805 Phosphoric acid solution, 8, III
- UN-No.(DOT): UN1805
- Proper Shipping Name (DOT): Phosphoric acid solution
- Transport hazard class(es) (DOT): 8 - Class 8 - Corrosive material 49 CFR 173.136
- Packing group (DOT): III - Minor Danger
- Hazard labels (DOT): 8 - Corrosive

#### DOT Packaging Non Bulk (49 CFR 173.xxx)

- 203

#### DOT Packaging Bulk (49 CFR 173.xxx)

- 241

#### DOT Special Provisions (49 CFR 172.102)

- A7 - Steel packaging must be corrosion-resistant or have protection against corrosion.
- IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31H2A, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
- N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.
- T4 - 2.65 178.274(d)(2) Normal............. 178.275(d)(3)
- TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

#### DOT Packaging Exceptions (49 CFR 173.xxx)

- 154

#### DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)

- 5 L
Phosphoric Acid-Sulfamic Acid Solution
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L
DOT Vessel Stowage Location : A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.
Other information : No supplementary information available.

SECTION 15: Regulatory information

15.1. US Federal regulations

Phosphoric Acid-Sulfamic Acid Solution

<table>
<thead>
<tr>
<th>SARA Section 311/312 Hazard Classes</th>
<th>Immediate (acute) health hazard</th>
</tr>
</thead>
</table>
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Phosphoric Acid, 85% w/w (7664-38-2)

| RQ (Reportable quantity, section 304 of EPA’s List of Lists) | 5000 lb |

Sulfamic Acid, ACS (5329-14-6)

| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard |

15.2. International regulations

CANADA

| Phosphoric Acid, 85% w/w (7664-38-2) | Listed on the Canadian DSL (Domestic Substances List) |

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

Revision date : 01/30/2018
Other information : None.

Full text of H-phrases: see section 16:

| H314 | Causes severe skin burns and eye damage |
| H318 | Causes serious eye damage |
| H401 | Toxic to aquatic life |

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.
Phosphoric Acid-Sulfamic Acid Solution
Safety Data Sheet

Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

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 : H
H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

SDS US LabChem

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