1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name: Phosphotungstic Acid Hematoxylin (PTAH) Stain Kit
Part Number: 9111
CAS-No.: Not applicable
SDS Number: 6090

1.2 Recommended Use: Laboratory Chemicals

1.3 Company: Newcomer Supply
2505 Parview Road
Middleton, WI 53562 USA
Telephone: 1-800-383-7799
Fax: 1-608-831-0866
Website: www.newcomersupply.com
Email: newly@newcomersupply.com

2. HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification, (in accordance with 29 CFR1910.1200)
Flammable liquid, Category 3
Acute toxicity (oral), Category 2
Acute toxicity (inhalation), Category 2
Acute toxicity (dermal), Category 1
Skin corrosion, Category 1
Serious eye damage, Category 1
Respiratory sensitization, Category 1
Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1B
Reproductive toxicity, Category 1B
Specific Target Organ Toxicity – Repeated exposure, Category 1

2.2 GHS Label elements
Signal Word: DANGER
Pictogram

Hazard Statement(s):
· Flammable liquid and vapour
· Fatal if swallowed
· Fatal if inhaled
· Fatal in contact with skin
· Causes severe skin burns and eye damage
· May cause allergy or asthma symptoms or breathing difficulties if inhaled
· May cause genetic defects
· May cause cancer
· May damage fertility or the unborn child
· May cause damage to organs through prolonged or repeated exposure

Precautionary Statement(s):
Prevention:
· Obtain special instructions before use.
· Do not handle until all safety precautions have been read and understood.
· Keep away from heat/sparks/open flames/hot surfaces – No smoking.
· Keep container tightly closed.
· Use explosion-proof fume hood/electrical/ventilating/light equipment.

24 HOUR EMERGENCY CONTACT
CALL CHEMTREC: 1-800-424-9300
Contact CHEMTREC only in the event of an emergency involving a chemical spill, leak, fire, exposure or other accident.
Part Number: 9111

- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wash skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Do not get in eyes, on skin, or on clothing.
- Use only outdoors or in a well-ventilated area.
- In case of inadequate ventilation wear respiratory protection.

**Response:**
- In case of fire use carbon dioxide, dry chemical or alcohol-resistant foam.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
  - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - Wash contaminated clothing before reuse.
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
  - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
  - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- Specific treatment is urgent: see first aid measures in section 4.
- Immediately call a POISON CENTER or doctor/physician.

**Storage:**
- Keep container tightly closed.
- Store locked up.
- Store in a well ventilated place. Keep cool.

**Disposal:**
- Dispose of contents/ container to an approved waste disposal plant.

2.3 Description of any hazards not otherwise classified

None

2.4 >1% of mixture with unknown acute toxicity

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

See component SDS

4. FIRST-AID MEASURES

See component SDS

5. FIRE-FIGHTING MEASURES

See component SDS

6. ACCIDENTAL RELEASE MEASURES

See component SDS

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing.

7.2 Conditions for safe storage, including any incompatibilities

Refer to Section 2.2 for proper storage temperature. Store the tightly closed container in a cool, dry, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
14.  TRANSPORT INFORMATION

14.1  DOT (US)

<table>
<thead>
<tr>
<th>Field</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
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<tr>
<td>Proper shipping name</td>
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<tr>
<td>Hazard class</td>
<td>No data available</td>
</tr>
<tr>
<td>Packing group</td>
<td>No data available</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No data available</td>
</tr>
</tbody>
</table>

15.  REGULATORY INFORMATION

See component SDS

16.  OTHER INFORMATION

Preparation Information
Newcomer Supply Inc.
800-383-7799
www.newcomersupply.com
Copyright © Newcomer Supply Inc. All rights reserved.
1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name: Phosphotungstic Acid Hematoxylin (PTAH) Stain Kit, Sol’n A: Zenker Fixative, Modified, Zinc Chloride
   Part Number: 9111
   CAS-No.: Not applicable
   SDS Number: 4690

1.2 Recommended Use: Laboratory Chemicals

1.3 Company: Newcomer Supply
   2505 Parview Road
   Middleton, WI 53562 USA
   Telephone: 1-800-383-7799
   Fax: 1-608-831-0866
   Website: www.newcomersupply.com
   Email: newly@newcomersupply.com

2. HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture
   GHS Classification, (in accordance with 29 CFR 1910.1200)
   Acute toxicity (oral), Category 2
   Acute toxicity (inhalation), Category 2
   Acute toxicity (dermal), Category 1
   Skin corrosion, Category 1
   Serious eye damage, Category 1
   Respiratory sensitization, Category 1
   Germ cell mutagenicity, Category 1B
   Carcinogenicity, Category 1B
   Reproductive toxicity, Category 1B
   Specific Target Organ Toxicity – Repeated exposure, Category 1

2.2 GHS Label elements
   Signal Word: DANGER
   Pictogram:

   Hazard Statement(s):
   - Fatal if swallowed
   - Fatal if inhaled
   - Fatal in contact with skin
   - Causes severe skin burns and eye damage
   - May cause allergy or asthma symptoms or breathing difficulties if inhaled
   - May cause genetic defects
   - May cause cancer
   - May damage fertility or the unborn child
   - May cause damage to organs through prolonged or repeated exposure

   Precautionary Statement(s):
   Prevention:
   - Obtain special instructions before use.
   - Do not handle until all safety precautions have been read and understood.
   - Wash skin thoroughly after handling.
   - Do not eat, drink or smoke when using this product.
   - Wear protective gloves/protective clothing/eye protection/face protection.
   - Do not breathe dust/fume/gas/mist/vapours/spray.

24 HOUR EMERGENCY CONTACT
CALL CHEMTREC: 1-800-424-9300
Contact CHEMTREC only in the event of an emergency involving a chemical spill, leak, fire, exposure or other accident.
Part Number: 9111

Response:
- Do not get in eyes, on skin, or on clothing.
- Use only outdoors or in a well-ventilated area.
- In case of inadequate ventilation wear respiratory protection.

Response:
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash contaminated clothing before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
- Specific treatment is urgent: see first aid measures in section 4.
- Immediately call a POISON CENTER or doctor/physician.

Storage:
- Store in a well ventilated place. Keep container tightly closed.
- Store locked up.

Disposal:
- Dispose of contents/ container to an approved waste disposal plant.

2.3 Description of any hazards not otherwise classified

None

2.4 >1% of mixture with unknown acute toxicity

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Hazardous Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Concentration</td>
</tr>
<tr>
<td>Potassium Dichromate</td>
<td></td>
</tr>
<tr>
<td>CAS-No. 7778-50-9</td>
<td>3%</td>
</tr>
<tr>
<td>Name</td>
<td>Concentration</td>
</tr>
<tr>
<td>Zinc Chloride</td>
<td>5%</td>
</tr>
<tr>
<td>CAS-No. 7646-85-7</td>
<td></td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

4.1 Description of necessary measures

Inhalation (breathing)
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician.

Eye Contact
- IF IN EYES: 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.

Ingestion (swallowed)
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and or effects, acute and delayed
The most important symptoms/effects are presented in Section 2 and or Section 11.
4.3 **Indication of any immediate medical attention and special treatment needed**
No data available

5. **FIRE-FIGHTING MEASURES**

5.1 **Suitable extinguishing media**
Carbon dioxide, dry chemical, water spray, alcohol-resistant foam.

5.2 **Specific hazards arising from the substance or mixture**
No data available

5.3 **Protective equipment and precautions for fire-fighters**
Wear a positive-pressure self-contained breathing apparatus if necessary. Wear chemical resistant clothing as recommended by clothing manufacturer.

**NFPA Rating**

<table>
<thead>
<tr>
<th>Health hazard</th>
<th>Fire hazard</th>
<th>Reactivity hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

6. **ACCIDENTAL RELEASE MEASURES**

6.1 **Personal precautions, protective equipment and emergency procedures**
Apply personal protective equipment (see Section 8). Use in a properly ventilated area. Avoid breathing vapors. Avoid skin contact. Avoid eye contact. Wash hands after use. In case of large spill, remove personnel to a safe area.

6.2 **Methods and material for containment and cleaning up**
Apply personal protective equipment (see Section 8). Contain spill. Prevent further leakage if possible and safe to do so. Ensure proper ventilation. For small amounts, wipe or absorb spill using inert material and dispose of according to local regulations. For large amounts, evacuate area and limit access. Prevent entry of material into sewage drains and confined areas. Dispose of any contaminated materials according to local regulations.

7. **HANDLING AND STORAGE**

7.1 **Precautions for safe handling**
Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing.

7.2 **Conditions for safe storage, including any incompatibilities**
Refer to Section 2.2 for proper storage temperature. Store the tightly closed container in a cool, dry, well-ventilated area.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

8.1 **Control Parameters**
Components with limit values that require monitoring at the workplace

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Regulatory</th>
<th>Value</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Dichromate</td>
<td>7778-50-9</td>
<td>OSHA PEL</td>
<td>TWA</td>
<td>0.005 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL</td>
<td>TWA</td>
<td>0.001 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH TLV</td>
<td>TWA</td>
<td>0.05 mg/m³</td>
</tr>
<tr>
<td>Zinc Chloride</td>
<td>7646-85-7</td>
<td>OSHA PEL</td>
<td>TWA</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL</td>
<td>TWA</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL</td>
<td>STEL</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH TLV</td>
<td>TWA</td>
<td>1 mg/m³</td>
</tr>
</tbody>
</table>
8.2 Exposure Controls
Appropriate engineering controls
Use in a properly ventilated area. Remove/wash before reuse contaminated clothing. Wash hands upon exiting work premises.

8.3 Personal Protective Equipment
Eye/Face protection
Wear chemical safety goggles and/or a full face shield if splashing is possible. Keep eye wash fountain nearby.

Skin Protection
Wear chemical-resistant gloves. Gloves should be resistant to components of product. Refer to glove manufacturer for appropriate type and glove thickness.

Body Protection
No data available

Respiratory Protection
Respirators should only be used if the employer has a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).

In case of emergency, entry into or escape from unknown concentrations, select the highest level approved respiratory protection available.

Other Information
None

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>Orange liquid</td>
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<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>ca. 0°C (ca. 32°F)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>ca. 100°C (ca. 32°F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
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</tr>
<tr>
<td>Solubility(ies)</td>
<td>Water soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</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</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable in a closed container within label-specified storage temperature and expiration date.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials

Potassium dichromate reacts violently with hydrazine; anhydrous hydroxylamine; ethylene glycol; and mixtures of sulfuric acid and acetone. Combinations of potassium dichromate with boron and silicon, iron or tungsten form explosive pyrotechnic mixtures. Potassium dichromate is not compatible with oxidizing agents (such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine and fluorine); strong acids (such as hydrochloric, sulfuric and nitric); and metals. Zinc chloride may react violently or explosively with potassium. Zinc chloride is not compatible with cyanides; sulfides; oxidizing agents (such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine and fluorine); and strong bases (such as sodium hydroxide and potassium hydroxide). Zinc chloride is corrosive to metals.

10.6 Hazardous decomposition products
No data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Inhalation exposure
No data available

Oral exposure
No data available

Dermal exposure
No data available

Skin corrosion/irritation
Contact with potassium dichromate and zinc chloride can irritate and burn the skin.

Serious eye damage/irritation
Contact with potassium dichromate and zinc chloride can irritate and burn the eyes with possible eye damage.

Respiratory or skin sensitization
Potassium dichromate may cause an asthma-like allergy. Future exposure can cause asthma attacks with shortness of breath, wheezing, coughing, and/or chest tightness.

Germ Cell mutagenicity
Potassium dichromate can cause change in the genetic material in a body cell leading to birth defects, miscarriages, or cancer.

Reproductive toxicity
There is limited evidence that potassium dichromate may damage the developing fetus in animals.

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
Potassium dichromate may damage the liver and kidneys.
SAFETY DATA SHEET (SDS)

Part Number: 9111

Aspiration hazard
No data available

Acute toxicity
Potassium Dichromate:
LD50 rat oral 25 mg/kg
LD50 rat dermal 14 mg/kg
LD50 rat inhalation 0.088 mg/l/4 hours
Zinc Chloride:
LD50 rat oral 350 mg/kg

Carcinogenicity
IARC: Potassium Dichromate: Group 1 - Carcinogenic to humans
NTP: Potassium Dichromate: Known to be a human carcinogen
OSHA: Potassium Dichromate: Specifically regulated carcinogen

Additional information
RTECS: No data available

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste disposal methods
Contents
Dispose of contents in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of packaging in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

14.1 DOT (US)
UN-Number  No data available
Proper shipping name  No data available
Hazard class  No data available
Packing group  No data available
Environmental hazards  No data available

15. REGULATORY INFORMATION

15.1 No data available
16. OTHER INFORMATION

Preparation Information
Newcomer Supply Inc.
800-383-7799
www.newcomersupply.com
Copyright © Newcomer Supply Inc. All rights reserved.
1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name: Phosphotungstic Acid Hematoxylin (PTAH) Stain Kit, Sol'n B: Acetic Acid, Glacial, ACS

Part Number: 9111
CAS-No.: 64-19-7
SDS Number: 2060

1.2 Recommended Use: Laboratory Chemicals

1.3 Company: Newcomer Supply
2505 Parview Road
Middleton, WI 53562 USA

Telephone: 1-800-383-7799
Fax: 1-608-831-0866
Website: www.newcomersupply.com
Email: newly@newcomersupply.com

2. HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification, (in accordance with 29 CFR1910.1200)
- Flammable liquid, Category 3
- Skin corrosion, Category 1A
- Serious eye damage, Category 1

2.2 GHS Label elements
Signal Word: DANGER

Pictogram

Hazard Statement(s):
- Flammable liquid and vapour
- Causes severe skin burns and eye damage

Precautionary Statement(s):
Prevention:
- Keep away from heat/sparks/open flames/hot surfaces – No smoking.
- Use explosion-proof fume hood/electrical/ventilating/light equipment.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash skin thoroughly after handling.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.

Response:
- In case of fire use carbon dioxide, dry chemical or alcohol-resistant foam.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash contaminated clothing before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- Specific treatment: see first aid measures in section 4.
- Immediately call a POISON CENTER or doctor/physician.

24 HOUR EMERGENCY CONTACT
CALL CHEMTREC: 1-800-424-9300
Contact CHEMTREC only in the event of an emergency involving a chemical spill, leak, fire, exposure or other accident.
3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Acetic Acid Glacial</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>64-19-7</td>
</tr>
<tr>
<td>Concentration</td>
<td>99-100%</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

4.1 Description of necessary measures

**Inhalation (breathing)**
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

**Skin Contact**
Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician.

**Eye Contact**
If in eyes: 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.

**Ingestion (swallowed)**
If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and or effects, acute and delayed
The most important symptoms/effects are presented in Section 2 and or Section 11.

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media
Carbon dioxide, dry chemical, water spray, alcohol-resistant foam.

5.2 Specific hazards arising from the substance or mixture
No data available

5.3 Protective equipment and precautions for fire-fighters
Wear a positive-pressure self-contained breathing apparatus if necessary. Wear chemical resistant clothing as recommended by clothing manufacturer.

**NFPA Rating**
- Health hazard: 3
- Fire hazard: 2
- Reactivity hazard: 0

6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
Apply personal protective equipment (see Section 8). Use in a properly ventilated area. Avoid breathing vapors. Avoid skin contact. Avoid eye contact. Wash hands after use. In case of large spill, remove personnel to a safe area. Keep product away from heat, flame, ignition sources, and reactive materials. Avoid accumulation of vapor to form explosive concentration. Pay particular attention to low areas where vapor accumulates more easily.

6.2 Methods and material for containment and cleaning up
Apply personal protective equipment (see Section 8). Contain spill. Prevent further leakage if possible and safe to do so. Ensure proper ventilation. For small amounts, wipe or absorb spill using inert material and dispose of according to local regulations. For large amounts, evacuate area and limit access. Prevent entry of material into sewage drains and confined areas. Dispose of any contaminated materials according to local regulations. Eliminate sources of ignition.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing.

7.2 Conditions for safe storage, including any incompatibilities
Refer to Section 2.2 for proper storage temperature. Store the tightly closed container in a cool, dry, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters
Components with limit values that require monitoring at the workplace

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Regulatory</th>
<th>Value</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetic Acid</td>
<td>64-19-7</td>
<td>OSHA PEL</td>
<td>TWA</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH TLV</td>
<td>TWA</td>
<td>10 ppm (25 mg/m³)</td>
</tr>
<tr>
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<td></td>
<td>ACGIH TLV</td>
<td>STEL</td>
<td>15 ppm (37 mg/m³)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL</td>
<td>TWA</td>
<td>10 ppm (25 mg/m³)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL</td>
<td>STEL</td>
<td>15 ppm (37 mg/m³)</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls
Appropriate engineering controls
Use in a properly ventilated area. Remove/wash before reuse contaminated clothing. Wash hands upon exiting work premises. Use product in an appropriately designated fume hood. Take measures to keep concentrations below acceptable limits.

8.3 Personal Protective Equipment
Eye/Face protection
Wear chemical safety goggles and/or a full face shield if splashing is possible. Keep eye wash fountain nearby.

Skin Protection
Wear chemical-resistant gloves. Gloves should be resistant to components of product. Refer to glove manufacturer for appropriate type and glove thickness.

Body Protection
No data available

Respiratory Protection
Respirators should only be used if the employer has a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).

Where the potential exists for exposure over 10 ppm: use a NIOSH approved full facepiece respirator with an organic vapor cartridge. Increased protection is obtained from full facepiece powered-air purifying respirators. If while wearing a filter or cartridge respirator you can smell, taste, or otherwise detect acetic acid, or if while wearing particulate filters abnormal resistance to breathing is experienced, or eye irritation occurs while wearing a full facepiece respirator, leave the area immediately. Check to make sure the respirator-to-face seal is still good. If it is, replace the filter or cartridge. If the seal is no longer good, you may need a new respirator.

Where the potential exists for exposure over 100 ppm, use a NIOSH approved supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode. For increased protection use in combination with an auxiliary self-contained breathing apparatus operated in a pressure-demand or other positive-pressure mode.

In case of emergency, entry into or escape from unknown concentrations, select the highest level approved respiratory protection available.

Other Information
None

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>Colorless liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent vinegar odor</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>&lt; 2</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>16.6°C (61.9°F)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>117.9°C (244.2 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>39°C (103°F) in closed cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>0.97</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Liquid is flammable</td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>16%</td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>4%</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>15.7 mmHg at 25°C (77°F)</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.05</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Infinitely soluble with water</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</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</td>
<td>No data available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available

10.2 Chemical stability
Stable in a closed container within label-specified storage temperature and expiration date.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
None
10.5 **Incompatible materials**
Strong oxidizing agents (especially chromic acid, sodium peroxide and nitric acid), strong reducing agents, metals, strong acids, and strong bases.

10.6 **Hazardous decomposition products**
Carbon dioxide and carbon monoxide may be released if product is heated to decomposition.

11. **TOXICOLOGICAL INFORMATION**

11.1 **Information on toxicological effects**

**Inhalation exposure**
Human data: Marked irritation of the nose, and upper respiratory tract which could not be tolerated for more than 3 minutes was noted at 816 to 1,226 ppm.

**Oral exposure**
No data available

**Dermal exposure**
No data available

**Skin corrosion/irritation**
Contact can severely irritate and burn the skin.

**Serious eye damage/irritation**
Contact can severely irritate and burn the eyes, leading to eye damage.

**Respiratory or skin sensitization**
It has been stated that repeated exposures to high concentrations may produce respiratory tract irritation with pharyngeal edema and chronic bronchitis.

**Germ cell mutagenicity**
No data available

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
No data available

**Aspiration hazard**
No data available

**Acute toxicity**
LD50 rat oral 3310 mg/kg
LD50 rabbit skin 1060uL/kg
LD50 mouse intravenous 525mg/kg
LC50 mouse inhalation 5620ppm/1H

**Carcinogenicity**
IARC: None of the components are listed
NTP: None of the components are listed
OSHA: None of the components are listed

**Additional information**
RTECS: No data available
12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste disposal methods

Contents
Dispose of contents in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of packaging in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

14.1 DOT (US)

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>2789</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proper shipping name</td>
<td>Acetic acid, glacial</td>
</tr>
<tr>
<td>Hazard class</td>
<td>8</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No data available</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

15.1 No data available

16. OTHER INFORMATION

Preparation Information
Newcomer Supply Inc.
800-383-7799
www.newcomersupply.com

Copyright © Newcomer Supply Inc. All rights reserved.
1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name: Phosphotungstic Acid Hematoxylin (PTAH) Stain Kit, Sol’n C: Potassium Permanganate 0.25%, Aqueous

Part Number: 9111
CAS-No.: Not applicable
SDS Number: 4080

1.2 Recommended Use: Laboratory Chemicals

1.3 Company: Newcomer Supply
2505 Parview Road
Middleton, WI 53562 USA
Telephone: 1-800-383-7799
Fax: 1-608-831-0866
Website: www.newcomersupply.com
Email: newly@newcomersupply.com

2. HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification, (in accordance with 29 CFR1910.1200)
Acute toxicity (oral), Category 4

2.2 GHS Label elements

Signal Word: WARNING

Pictogram

Hazard Statement(s):
· Harmful if swallowed

Precautionary Statement(s):
Prevention:
· Wash skin thoroughly after handling.
· Do not eat, drink or smoke when using this product.
Response:
· IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
· Rinse mouth.
Disposal:
· Dispose of contents/ container to an approved waste disposal plant.

2.3 Description of any hazards not otherwise classified None

2.4 >1% of mixture with unknown acute toxicity None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture
Hazardous Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Potassium Permanganate</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>7722-64-7</td>
</tr>
<tr>
<td></td>
<td>0.25%</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

4.1 Description of necessary measures

Inhalation (breathing)
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

**Skin Contact**
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical advice/attention if you feel unwell.

**Eye Contact**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Get medical advice/attention if you feel unwell.

**Ingestion (swallowed)**
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

### 4.2 Most important symptoms and or effects, acute and delayed
The most important symptoms/effects are presented in Section 2 and or Section 11.

### 4.3 Indication of any immediate medical attention and special treatment needed
No data available

## 5. FIRE-FIGHTING MEASURES

### 5.1 Suitable extinguishing media
Carbon dioxide, dry chemical, water spray, alcohol-resistant foam.

### 5.2 Specific hazards arising from the substance or mixture
No data available

### 5.3 Protective equipment and precautions for fire-fighters
Wear a positive-pressure self-contained breathing apparatus if necessary. Wear chemical resistant clothing as recommended by clothing manufacturer.

**NFPA Rating**

<table>
<thead>
<tr>
<th>Health hazard:</th>
<th>Fire hazard:</th>
<th>Reactivity hazard:</th>
<th>Other</th>
<th>Oxidizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures
Apply personal protective equipment (see Section 8). Use in a properly ventilated area. Avoid breathing vapors. Avoid skin contact. Avoid eye contact. Wash hands after use. In case of large spill, remove personnel to a safe area. Keep product away from heat, flame, ignition sources, and reactive materials. Avoid accumulation of vapor to form explosive concentration. Pay particular attention to low areas where vapor accumulates more easily.

### 6.2 Methods and material for containment and cleaning up
Apply personal protective equipment (see Section 8). Contain spill. Prevent further leakage if possible and safe to do so. Ensure proper ventilation. For small amounts, wipe or absorb spill using inert material and dispose of according to local regulations. For large amounts, evacuate area and limit access. Prevent entry of material into sewage drains and confined areas. Dispose of any contaminated materials according to local regulations. Eliminate sources of ignition.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling
Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing.

### 7.2 Conditions for safe storage, including any incompatibilities
Refer to Section 2.2 for proper storage temperature. Store the tightly closed container in a cool, dry, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters
Components with limit values that require monitoring at the workplace

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Regulatory</th>
<th>Value</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Permanganate</td>
<td>7722-64-7</td>
<td>OSHA PEL</td>
<td>TWA</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH TLV</td>
<td>TWA</td>
<td>0.03 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL</td>
<td>STEL</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure Controls
Appropriate engineering controls
Use in a properly ventilated area. Remove/wash before reuse contaminated clothing. Wash hands upon exiting work premises. Use product in an appropriately designated fume hood. Take measures to keep concentrations below acceptable limits.

8.3 Personal Protective Equipment
Eye/Face protection
Wear chemical safety goggles and/or a full face shield if splashing is possible. Keep eye wash fountain nearby.

Skin Protection
Wear chemical-resistant gloves. Gloves should be resistant to components of product. Refer to glove manufacturer for appropriate type and glove thickness.

Body Protection
No data available

Respiratory Protection
Respirators should only be used if the employer has a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).

In case of emergency, entry into or escape from unknown concentrations, select the highest level approved respiratory protection available.

Other Information
None

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>Purple liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</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/freezing point</td>
<td>-2°C (28°F)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>102°C (215 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Completely water soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</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</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity
No data available

#### 10.2 Chemical stability
Stable in a closed container within label-specified storage temperature and expiration date.

#### 10.3 Possibility of hazardous reactions
No data available

#### 10.4 Conditions to avoid
No data available

#### 10.5 Incompatible materials
Potassium permanganate in contact with certain sulfoxides; aldehydes; strong acids (such as hydrochloric, sulfuric and nitric); amines; or glycols may result in fires. Potassium permanganate is not compatible with strong bases (such as sodium hydroxide and potassium hydroxide); finely powdered metals; peroxides; and aluminum, zinc, lead, and copper and their alloys.

#### 10.6 Hazardous decomposition products
Metal fumes

### 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

**Inhalation exposure**
No data available

**Oral exposure**
No data available

**Dermal exposure**
No data available

**Skin corrosion/irritation**
Contact with potassium permanganate can severely irritate and burn the skin.

**Serious eye damage/irritation**
Contact with potassium permanganate can severely irritate and burn the eyes with possible eye damage.

**Respiratory or skin sensitization**
No data available

**Germ Cell mutagenicity**
No data available

**Reproductive toxicity**
No data available

**Specific target organ toxicity - single exposure**
Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Acute toxicity
Potassium Permanganate:
LD50 rat oral 750 mg/kg
LD50 mouse oral 2157 mg/kg

Carcinogenicity
IARC: None of the components are listed
NTP: None of the components are listed
OSHA: None of the components are listed

Additional information
RTECS: No data available

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste disposal methods
Contents
Dispose of contents in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of packaging in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

14.1 DOT (US)
UN-Number No data available
Proper shipping name No data available
Hazard class No data available
Packing group No data available
Environmental hazards No data available

15. REGULATORY INFORMATION

15.1 No data available
16. OTHER INFORMATION

Preparation Information
Newcomer Supply Inc.
800-383-7799
www.newcomersupply.com
Copyright © Newcomer Supply Inc. All rights reserved.
1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name: Phosphotungstic Acid Hematoxylin (PTAH) Stain Kit, Sol'n D: Oxalic Acid 5%, Aqueous
Part Number: 9111
CAS-No.: Not applicable
SDS Number: 3700

1.2 Recommended Use: Laboratory Chemicals

1.3 Company: Newcomer Supply
2505 Parview Road
Middleton, WI 53562 USA
Telephone: 1-800-383-7799
Fax: 1-608-831-0866
Website: www.newcomersupply.com
Email: newly@newcomersupply.com

2. HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification, (in accordance with 29 CFR1910.1200)
- Skin corrosion, Category 1A
- Serious eye damage, Category 1
- Acute toxicity (oral), Category 4
- Acute toxicity (dermal), Category 4

2.2 GHS Label elements
Signal Word: DANGER

Pictogram

Hazard Statement(s):
- Causes severe skin burns and eye damage
- Harmful if swallowed
- Harmful in contact with skin

Precautionary Statement(s):
Prevention:
- Wear protective gloves/protective clothing/eye protection/face protection.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wash skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.

Response:
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash contaminated clothing before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- Specific treatment: see first aid measures in section 4.
- Immediately call a POISON CENTER or doctor/physician.

Storage:

24 HOUR EMERGENCY CONTACT
CALL CHEMTREC: 1-800-424-9300
Contact CHEMTREC only in the event of an emergency involving a chemical spill, leak, fire, exposure or other accident.
SAFETY DATA SHEET (SDS)
Revision Date: 10/16/2017
Version 1.4

Part Number: 9111

- Store locked up.

Disposal:
- Dispose of contents/container to an approved waste disposal plant.

2.3 Description of any hazards not otherwise classified None

2.4 >1% of mixture with unknown acute toxicity None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

<table>
<thead>
<tr>
<th>Hazardous Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Component</td>
</tr>
<tr>
<td>Name</td>
</tr>
<tr>
<td>CAS-No.</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

4.1 Description of necessary measures

Inhalation (breathing)
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician.

Eye Contact
IF IN EYES: 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.

Ingestion (swallowed)
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and or effects, acute and delayed
The most important symptoms/effects are presented in Section 2 and or Section 11.

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media
Carbon dioxide, dry chemical, water spray, alcohol-resistant foam.

5.2 Specific hazards arising from the substance or mixture
No data available

5.3 Protective equipment and precautions for fire-fighters
Wear a positive-pressure self-contained breathing apparatus if necessary. Wear chemical resistant clothing as recommended by clothing manufacturer.

NFPA Rating
<table>
<thead>
<tr>
<th>Health hazard</th>
<th>Fire hazard</th>
<th>Reactivity hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Apply personal protective equipment (see Section 8). Use in a properly ventilated area. Avoid breathing vapors. Avoid skin contact. Avoid eye contact. Wash hands after use. In case of large spill, remove personnel to a safe area.

6.2 Methods and material for containment and cleaning up
Apply personal protective equipment (see Section 8). Contain spill. Prevent further leakage if possible and safe to do so. Ensure proper ventilation. For small amounts, wipe or absorb spill using inert material and dispose of according to local regulations. For large amounts, evacuate area and limit access. Prevent entry of material into sewage drains and confined areas. Dispose of any contaminated materials according to local regulations.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing.

7.2 Conditions for safe storage, including any incompatibilities
Refer to Section 2.2 for proper storage temperature. Store the tightly closed container in a cool, dry, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters
Components with limit values that require monitoring at the workplace

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Regulatory</th>
<th>Value</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxalic acid</td>
<td>144-62-7</td>
<td>OSHA PEL</td>
<td>TWA</td>
<td>1 mg/m³</td>
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<td>ACGIH TLV</td>
<td>TWA</td>
<td>1 mg/m³</td>
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<td>STEL</td>
<td>2 mg/m³</td>
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<td></td>
<td></td>
<td>NIOSH REL</td>
<td>TWA</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL</td>
<td>STEL</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls
Appropriate engineering controls
Use in a properly ventilated area. Remove/wash before reuse contaminated clothing. Wash hands upon exiting work premises. Use product in an appropriately designated fume hood. Take measures to keep concentrations below acceptable limits.

8.3 Personal Protective Equipment
Eye/Face protection
Wear chemical safety goggles and/or a full face shield if splashing is possible. Keep eye wash fountain nearby.

Skin Protection
Wear chemical-resistant gloves. Gloves should be resistant to components of product. Refer to glove manufacturer for appropriate type and glove thickness.

Body Protection
No data available

Respiratory Protection
Respirators should only be used if the employer has a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).

Where the potential exists for exposure over 1 mg/m³: use a NIOSH approved full facepiece, negative pressure, air-purifying, particulate filter respirator with an N, R or P100 filter. More protection is provided by a full facepiece respirator than by a half-mask respirator, and even greater protection is provided by a powered-air purifying respirator.

Where the potential exists for exposure over 50 mg/m³: use a NIOSH approved supplied-air respirator with a full facepiece operated in a pressure-demand or other positive-pressure mode. For increased protection use in combination with an auxiliary self-contained breathing apparatus or an emergency escape air cylinder.

Exposure to 500 mg/m³: is immediately dangerous to life and health. If the possibility of exposure above 500 mg/m³ exists, use a NIOSH approved self-contained breathing apparatus with a full facepiece operated in a pressure-demand or other positive-pressure mode equipped with an emergency escape air cylinder.

In case of emergency, entry into or escape from unknown concentrations, select the highest level approved respiratory protection available.

**Other Information**

None

### 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>Clear, colorless liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available</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/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Completely water soluble</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</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</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

No data available

#### 10.2 Chemical stability

Stable in a closed container within label-specified storage temperature and expiration date.

#### 10.3 Possibility of hazardous reactions

No data available
10.4 Conditions to avoid
Heat, sparks, open flame, and ignition sources.

10.5 Incompatible materials
Oxalic acid reacts violently with oxidizing agents (such as perchlorates, peroxides, permanganates, chlorates, nitrates, chlorine, bromine and fluorine); furfuryl alcohol; and chlorites to cause fires and explosions. Oxalic acid will react with silver and silver compounds to form explosive silver oxalate. Oxalic acid is not compatible with strong acids (such as hydrochloric, sulfuric and nitric); strong bases (such as sodium hydroxide and potassium hydroxide); alkali metals (such as lithium, sodium and potassium); and acid chlorides. Store in tightly closed containers in a cool, well-ventilated area away from moisture and combustibles. Oxalic acid corrodes steel.

10.6 Hazardous decomposition products
No data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Inhalation exposure
Inhaling oxalic acid can irritate the lungs causing coughing and/or shortness of breath. Higher exposures may cause a build-up of fluid in the lungs (pulmonary edema), a medical emergency, with severe shortness of breath.

Oral exposure
No data available

Dermal exposure
No data available

Skin corrosion/irritation
Contact can severely irritate and burn the skin.

Serious eye damage/irritation
Contact can severely irritate and burn the eyes with possible eye damage.

Respiratory or skin sensitization
No data available

Germ Cell mutagenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Acute toxicity
Oxalic Acid:
LD50 human oral 15 to 30 g

Carcinogenicity
IARC: None of the components are listed
NTP: None of the components are listed
12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste disposal methods

Contents
Dispose of contents in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of packaging in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

14.1 DOT (US)

UN-Number No data available
Proper shipping name No data available
Hazard class No data available
Packing group No data available
Environmental hazards No data available

15. REGULATORY INFORMATION

15.1 No data available

16. OTHER INFORMATION

Preparation Information
Newcomer Supply Inc.
800-383-7799
www.newcomersupply.com
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1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name: Phosphotungstic Acid Hematoxylin (PTAH) Stain Kit, Sol’n E: Phosphotungstic Acid Hematoxylin (PTAH) Stain, Modified Mallory

Part Number: 9111
CAS-No.: Not applicable
SDS Number: 3970

1.2 Recommended Use: Laboratory Chemicals

1.3 Company: Newcomer Supply
2505 Parview Road
Middleton, WI 53562 USA
Telephone: 1-800-383-7799
Fax: 1-608-831-0866
Website: www.newcomersupply.com
Email: newly@newcomersupply.com

2. HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification, (in accordance with 29 CFR1910.1200)
Acute toxicity (oral), Category 4
Skin corrosion, Category 1A
Serious eye damage, Category 1

2.2 GHS Label elements

<table>
<thead>
<tr>
<th>Signal Word</th>
<th>DANGER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pictogram</td>
<td>![Cat 1A Symbol]</td>
</tr>
</tbody>
</table>

Hazard Statement(s):
- Harmful if swallowed
- Causes severe skin burns and eye damage

Precautionary Statement(s):
Prevention:
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash skin thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Do not breathe dust/fume/gas/mist/vapours/spray.
Response:
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- Wash contaminated clothing before reuse.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- Specific treatment: see first aid measures in section 4.
- Immediately call a POISON CENTER or doctor/physician.
Storage:
- Store locked up.

24 HOUR EMERGENCY CONTACT
CALL CHEMTREC: 1-800-424-9300
Contact CHEMTREC only in the event of an emergency involving a chemical spill, leak, fire, exposure or other accident.
Disposal:
- Dispose of contents/container to an approved waste disposal plant.

2.3 Description of any hazards not otherwise classified
None

2.4 >1% of mixture with unknown acute toxicity
None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Hazardous Components

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Concentration</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>Value</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

4.1 Description of necessary measures

Inhalation (breathing)
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

Skin Contact
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Immediately call a POISON CENTER or doctor/physician.

Eye Contact
IF IN EYES: 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.

Ingestion (swallowed)
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2 Most important symptoms and or effects, acute and delayed
The most important symptoms/effects are presented in Section 2 and or Section 11.

4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media
Carbon dioxide, dry chemical, water spray, alcohol-resistant foam.

5.2 Specific hazards arising from the substance or mixture
No data available

5.3 Protective equipment and precautions for fire-fighters
Wear a positive-pressure self-contained breathing apparatus if necessary. Wear chemical resistant clothing as recommended by clothing manufacturer.

NFPA Rating

<table>
<thead>
<tr>
<th>Health hazard</th>
<th>Fire hazard</th>
<th>Reactivity hazard</th>
<th>Other</th>
<th>Oxidizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Apply personal protective equipment (see Section 8). Use in a properly ventilated area. Avoid breathing vapors. Avoid skin contact. Avoid eye contact. Wash hands after use. In case of large spill, remove personnel to a safe area. Keep product away from heat, flame, ignition sources, and reactive materials. Avoid accumulation of vapor to form explosive concentration. Pay particular attention to low areas where vapor accumulates more easily.

6.2 Methods and material for containment and cleaning up
Apply personal protective equipment (see Section 8). Contain spill. Prevent further leakage if possible and safe to do so. Ensure proper ventilation. For small amounts, wipe or absorb spill using inert material and dispose of according to local regulations. For large amounts, evacuate area and limit access. Prevent entry of material into sewage drains and confined areas. Dispose of any contaminated materials according to local regulations. Eliminate sources of ignition.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing.

7.2 Conditions for safe storage, including any incompatibilities
Refer to Section 2.2 for proper storage temperature. Store the tightly closed container in a cool, dry, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters
Components with limit values that require monitoring at the workplace

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Regulatory</th>
<th>Value</th>
<th>Parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Permanganate</td>
<td>7722-64-7</td>
<td>OSHA PEL</td>
<td>TWA</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH TLV</td>
<td>TWA</td>
<td>0.03 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL</td>
<td>TWA</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH REL</td>
<td>STEL</td>
<td>3 mg/m³</td>
</tr>
<tr>
<td>Phosphotungstic Acid</td>
<td>12501-23-4</td>
<td>ACGIH</td>
<td>TWA</td>
<td>5 mg/m³ (as a tungsten soluble compound)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>STEL</td>
<td>0.10 mg/m³ (as a tungsten soluble compound)</td>
</tr>
</tbody>
</table>

8.2 Exposure Controls
Appropriate engineering controls
Use in a properly ventilated area. Remove/wash before reuse contaminated clothing. Wash hands upon exiting work premises. Use product in an appropriately designated fume hood. Take measures to keep concentrations below acceptable limits.

8.3 Personal Protective Equipment
Eye/Face protection
Wear chemical safety goggles and/or a full face shield if splashing is possible. Keep eye wash fountain nearby.

Skin Protection
Wear chemical-resistant gloves. Gloves should be resistant to components of product. Refer to glove manufacturer for appropriate type and glove thickness.

**Body Protection**
No data available

**Respiratory Protection**
Respirators should only be used if the employer has a written program that takes into account workplace conditions, requirements for worker training, respirator fit testing, and medical exams as described in the OSHA Respiratory Protection Standard (29 CFR 1910.134).
In case of emergency, entry into or escape from unknown concentrations, select the highest level approved respiratory protection available.

**Other Information**
None

### 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>Dark purple to brown liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</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/freezing point</td>
<td>ca. 0°C (32°F)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>ca. 100°C (212°F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Similar to water</td>
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<tr>
<td>Solubility(ies)</td>
<td>Water soluble</td>
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<tr>
<td>Partition coefficient: n-octanol/water</td>
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<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</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity
No data available

#### 10.2 Chemical stability
Stable in a closed container within label-specified storage temperature and expiration date.

#### 10.3 Possibility of hazardous reactions
No data available

#### 10.4 Conditions to avoid
No data available

#### 10.5 Incompatible materials
Strong bases, strong oxidizing materials, strong reducing materials, halogens, powdered metals, acids, sulfites, peroxides

#### 10.6 Hazardous decomposition products
Carbon monoxide, carbon dioxide, phosphorous oxides, tungsten oxides, potassium oxides, manganese oxides, phosphine gas, and oxygen gas. May also produce irritating and toxic fumes.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Inhalation exposure
No data available

Oral exposure
No data available

Dermal exposure
No data available

Skin corrosion/irritation
Contact with potassium permanganate, phosphotungstic acid, and hematoxylin can severely irritate and burn the skin.

Serious eye damage/irritation
Contact with potassium permanganate, phosphotungstic acid, and hematoxylin can severely irritate and burn the eyes with possible eye damage.

Respiratory or skin sensitization
No data available

Germ Cell mutagenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Acute toxicity
Potassium Permanganate:
LD50 rat oral 750 mg/kg
LD50 mouse oral 2157 mg/kg
Hematoxylin:
LD50 rat oral 400 mg/kg

Carcinogenicity
IARC: None of the components are listed
NTP: None of the components are listed
OSHA: None of the components are listed

Additional information
RTECS: No data available

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

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12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste disposal methods

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14. TRANSPORT INFORMATION

14.1 DOT (US)

UN-Number No data available
Proper shipping name No data available
Hazard class No data available
Packing group No data available
Environmental hazards No data available

15. REGULATORY INFORMATION

15.1 No data available

16. OTHER INFORMATION

Preparation Information
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