**SIGMA-ALDRICH**

**Material Safety Data Sheet**

**1. PRODUCT AND COMPANY IDENTIFICATION**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Ammonium molybdate tetrahydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>M1019</td>
</tr>
<tr>
<td>Brand</td>
<td>Sigma</td>
</tr>
<tr>
<td>Company</td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td>3050 Spruce Street</td>
<td></td>
</tr>
<tr>
<td>SAINT LOUIS MO 63103</td>
<td></td>
</tr>
<tr>
<td>USA</td>
<td></td>
</tr>
<tr>
<td>Telephone</td>
<td>+1 800-325-5832</td>
</tr>
<tr>
<td>Fax</td>
<td>+1 800-325-5002</td>
</tr>
<tr>
<td>Emergency Phone #</td>
<td>(314) 776-6555</td>
</tr>
</tbody>
</table>

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>Synonyms</th>
<th>Ammonium heptamolybdate tetrahydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula</td>
<td>(NH4)6Mo7O24 · 4H2O</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>1,235.86 g/mol</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>12054-85-2</td>
<td>234-320-9</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**3. HAZARDS IDENTIFICATION**

<table>
<thead>
<tr>
<th>Emergency Overview</th>
<th>OSHA Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Irritant</td>
</tr>
</tbody>
</table>

**HMIS Classification**

<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**NFPA Rating**

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

**Potential Health Effects**

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>May be harmful if inhaled. May cause respiratory tract irritation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>May be harmful if absorbed through skin. May cause skin irritation.</td>
</tr>
</tbody>
</table>

**4. FIRST AID MEASURES**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If Inhaled**

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**5. FIRE-FIGHTING MEASURES**

**Flammable properties**

Flash point: no data available

Ignition temperature: no data available

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**

Wear self-contained breathing apparatus for fire fighting if necessary.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions**

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.

**Environmental precautions**

Do not let product enter drains.

**Methods for cleaning up**

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE**

**Handling**

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Storage**

Keep container tightly closed in a dry and well-ventilated place.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
- Form: crystalline
- Colour: white

Safety data
- pH: no data available
- Melting point: no data available
- Boiling point: no data available
- Flash point: no data available
- Ignition temperature: no data available
- Lower explosion limit: no data available
- Upper explosion limit: no data available
- Density: 2.498 g/cm³
- Water solubility: no data available

10. STABILITY AND REACTIVITY

Storage stability
- Stable under recommended storage conditions.

Materials to avoid
- Strong oxidizing agents, Strong acids

Hazardous decomposition products
- Hazardous decomposition products formed under fire conditions: Ammonia, nitrogen oxides (NOx)

11. TOXICOLOGICAL INFORMATION

Acute toxicity
- no data available

Irritation and corrosion
- no data available

Sensitisation
- no data available

Chronic exposure
- no data available

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)
- no data available

Ecotoxicity effects
- Toxicity to fish: LC₅₀ - Oncorhynchus mykiss (rainbow trout) - 300 mg/l - 96 h
- LC₅₀ - Oncorhynchus mykiss (rainbow trout) - 420 mg/l - 96 h
- Toxicity to daphnia and other aquatic invertebrates: EC₅₀ - Daphnia magna (Water flea) - 140 mg/l - 48 h
- Toxicity to algae: EC₅₀ - Scenedesmus subspicatus - 41 mg/l - 72 h

Further information on ecology
- no data available

13. DISPOSAL CONSIDERATIONS

Product
- Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
- Dispose of as unused product

14. TRANSPORT INFORMATION

DOT (US)
- Not dangerous goods

IMDG
- Not dangerous goods

IATA
- Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
- Irritant

TSCA Status
- On TSCA Inventory
DSL Status
This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
</tr>
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<tr>
<td>Ammonium molybdenum oxide tetrahydrate</td>
<td>12054-85-2</td>
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SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components
No Components Listed

Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further information
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