

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Ammonium molybdate tetrahydrate

Other means of identification

Product Code(s) A3332

Synonyms No information available

Product Use For Laboratory Research Use Only.

Supplier/Manufacturer

Biomatik Corporation
9-140 McGovern Dr.
Cambridge, Ontario N3H 4R7
Canada

Telephone Number 1-519-489-7195

E-mail Address info@biomatik.com

Emergency Telephone Number Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.122)

Label elements

Emergency Overview

Appearance White **Physical State** Crystalline **Odor** No information available

Hazards not otherwise classified (HNOC)

Not regulated

Other Information

- May be harmful if swallowed
 - Harmful to aquatic life with long lasting effects
- Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | CAS-No | EC No. | Weight % | Trade Secret |
|---------------------------------|------------|-----------|----------|----------------|
| Ammonium molybdate tetrahydrate | 12054-85-2 | 234-320-9 | 95-100 | Not applicable |

4. FIRST AID MEASURES

First Aid Measures

| | |
|---------------------|--|
| Eye Contact | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin Contact | Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. |
| Inhalation | Move to fresh air. If not breathing, give artificial respiration. |
| Ingestion | Never give anything by mouth to an unconscious person. Rinse mouth. |

Most important symptoms and effects, both acute and delayed

Most Important Symptoms/Effects No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable Extinguishing Media No information available.

Specific Hazards Arising from the Chemical

No information available.

Hazardous Combustion Products Nitrogen oxides (NOx). Molybdenum oxides.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal protection Avoid dust formation. Avoid breathing vapours, mist or gas.

Environmental Precautions

Environmental Precautions See Section 12 for additional Ecological information.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Handling Handle in accordance with good industrial hygiene and safety practice. Protect from moisture.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

Incompatible Products Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|---------------------------------|-----------|----------|------------|
| Ammonium molybdate tetrahydrate | - | - | - |

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and Body Protection Wear protective gloves/clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|-------------|-----------------------|--------------------------|
| Physical State | Solid | Odor | No information available |
| Appearance | Crystalline | Odor Threshold | No information available |
| Color | White | | |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|-------------------------------------|--------------------------|--------------------------------|
| pH | No information available | |
| Melting point/freezing point | No information available | |
| Boiling Point/Range | No information available | |
| Flash Point (High in °C) | No information available | |
| Evaporation Rate | No information available | |
| Flammability (solid, gas) | No information available | |
| Flammability Limit in Air | | |
| Upper flammability limit: | No information available | |
| Lower flammability limit: | No information available | |
| Vapor pressure | No information available | |
| Vapor Density | No information available | |
| Specific Gravity | No information available | |

| | |
|-------------------------------------|--------------------------|
| Water Solubility | No information available |
| Solubility in other solvents | No information available |
| Partition coefficient | No information available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Kinematic viscosity | No information available |
| Dynamic viscosity | No information available |
| Explosive Properties | No information available |
| Oxidizing Properties | No information available |

Other Information

| | |
|-------------------------|--------------------------|
| Softening Point | No information available |
| Molecular Weight | No information available |
| VOC Content | No information available |
| Density | No information available |
| Bulk Density | No information available |

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

No data available.

Incompatible Materials

Strong oxidizing agents. Strong acids

Hazardous Decomposition ProductsNitrogen oxides (NO_x), Molybdenum oxides

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

| | |
|---------------------|--|
| Inhalation | There is no data available for this product. |
| Eye Contact | There is no data available for this product. |
| Skin Contact | There is no data available for this product. |
| Ingestion | There is no data available for this product. |

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---------------------------------|-----------|-------------|-----------------|
| Ammonium molybdate tetrahydrate | - | - | - |

Information on toxicological effects**Symptoms** No information available.**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

| | |
|--------------------------|---------------------------|
| Sensitization | No information available. |
| Mutagenic Effects | No information available. |
| Carcinogenicity | No information available. |

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|---------------|-------|------|-----|------|
| | | | | |

| | | | | |
|---------------------------------|---------------------------|---|---|---|
| Ammonium molybdate tetrahydrate | - | - | - | - |
| Reproductive Toxicity | No information available. | | | |
| STOT - single exposure | No information available. | | | |
| STOT - repeated exposure | No information available. | | | |
| Aspiration hazard | No information available. | | | |

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity 0 % of the mixture consists of ingredient(s) of unknown toxicity
 The following values are calculated based on chapter 3.1 of the GHS document .

12. ECOLOGICAL INFORMATION

Ecotoxicity

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

| Chemical Name | Algae/aquatic plants | Toxicity to Fish | Crustacea |
|---------------------------------|---|---|-----------|
| Ammonium molybdate tetrahydrate | EC50 - Desmodium subspicatus (green algae) - 41 mg/l - 72 h | LC0 - Oncorhynchus mykiss (rainbow trout) - 320 mg/l - 96 h LC50 - Oncorhynchus mykiss (rainbow trout) - 420 mg/l - 96 h | - |

Persistence and Degradability

No information available.

Bioaccumulation/Accumulation

No information available.

| Chemical Name | Partition coefficient |
|---------------------------------|-----------------------|
| Ammonium molybdate tetrahydrate | - |

Other Adverse Effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method

Dispose of material in accordance with all federal, state, and local regulations.

Contaminated Packaging

Do not re-use empty containers.

| Chemical Name | RCRA - Halogenated Organic Compounds | RCRA - P Series Wastes | RCRA - F Series Wastes | RCRA - K Series Wastes |
|---------------------------------|--------------------------------------|------------------------|------------------------|------------------------|
| Ammonium molybdate tetrahydrate | - | - | - | - |

| Chemical Name | California Hazardous Waste Status |
|---------------------------------|-----------------------------------|
| Ammonium molybdate tetrahydrate | - |

14. TRANSPORT INFORMATION

DOT

Not regulated

IATA

Not regulated

15. REGULATORY INFORMATION

WHMIS Classification

Not WHMIS controlled.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations

16. OTHER INFORMATION

Disclaimer

The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet

