



# SAFETY DATA SHEET

[Required under safety and health regulations for shipping and handling]

Version: 2021

Date Updated: July 16, 2021

## SECTION 1. ----- PRODUCT AND COMPANY IDENTIFICATION -----

Product Name Ammonium molybdate tetrahydrate  
 Product Code(s) AB0067  
 Recommended Use For Laboratory Research Use Only  
 Not for Human or Animal Drug Use

Supplier Bio Basic Inc.  
 Address 20 Konrad Crescent, Markham, Ontario,  
 Canada, L3R 8T4  
 Telephone (905) 474 4493  
 Fax (905) 474 5794  
 For Chemical Emergency Phone# (416) 995 9730

## SECTION 2. ----- HAZARDS IDENTIFICATION -----

### GHS Classification in accordance with Hazardous Products Regulations (HPR) (SOR/2015-17)

Short-term (acute) aquatic hazard (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS Label elements, including precautionary statements

Pictogram none  
 Signal word none  
 Hazard statement(s)  
 H402 Harmful to aquatic life.  
 Precautionary statement(s)  
 P273 Avoid release to the environment.  
 P501 Dispose of contents/ container to an approved waste disposal plant.

### Hazards not otherwise classified (HNOC) or not covered by GHS

- none

## SECTION 3. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	CAS-No	Weight %
Ammonium molybdate tetrahydrate	234-320-9	12054-85-2	<100

## SECTION 4. ----- FIRST-AID MEASURES -----

### If inhaled

After inhalation: fresh air.

### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

**In case of eye contact**

After eye contact: rinse out with plenty of water. Remove contact lenses.

**If swallowed**

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

**Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

**Indication of any immediate medical attention and special treatment needed**

No data available

**SECTION 5. ----- FIRE FIGHTING MEASURES -----****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**

For this substance/mixture no limitations of extinguishing agents are given.

**Special hazards arising from the substance or mixture**

Not combustible.

Fire may cause evolution of: nitrogen oxides

Ambient fire may liberate hazardous vapours.

**Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.

**Further information**

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

**SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----****Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

**Environmental precautions**

Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

**Reference to other sections**

For disposal see section 13.

**SECTION 7. ----- HANDLING AND STORAGE-----****Precautions for safe handling**

For precautions see section 2.

**Conditions for safe storage, including any incompatibilities****Storage conditions**

Tightly closed. Dry.

Recommended storage temperature see product label.

Storage class (TRGS 510): 13: Non Combustible Solids

**Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - -**

**Control parameters**

**Ingredients with workplace control parameters**

Components	CAS-No.	Value	Control	Basis
			parameters	
Ammonium molybdenum oxide tetrahydrate	12054-85-2	TWA	0.5 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		TWA	0.5 mg/m3	Canada. British Columbia OEL
		TWA	0.5 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

**Exposure controls**

**Appropriate engineering controls**

Change contaminated clothing. Wash hands after working with substance.

**Personal protective equipment**

**Eye/face protection**

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min Material tested:KCL 741 Dermatri@ L

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Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min Material tested:KCL 741 Dermatri@ L

**Respiratory protection**

required when dusts are generated.

Our recommendations on filtering respiratory protection are based on the following

standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**

Do not let product enter drains.

**SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -**

**Information on basic physical and chemical properties**

- |   |   |
|---|---|
| a) Appearance                                   | Form: solid<br>Color: colorless   |
| b) Odor   | odorless  |
| c) Odor Threshold                               | Not applicable  |
| d) pH   | No data available   |
| e) Melting point/freezing point                 | Melting point: 400 °C (752 °F)  |
| f) Initial boiling point and boiling range      | No data available   |
| g) Flash point                                  | ( )Not applicable   |
| h) Evaporation rate                             | No data available   |
| i) Flammability (solid, gas)                    | The product is not flammable.   |
| j) Upper/lower flammability or explosive limits | No data available   |
| k) Vapor pressure                               | No data available   |
| l) Vapor density                                | No data available   |
| m) Relative density                             | No data available   |
| n) Water solubility                             | 206.5 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - completely soluble |
| o) Partition coefficient: octanol/water         | Not applicable for inorganic substances n-                                |
| p) Autoignition temperature                     | No data available   |
| q) Decomposition temperature                    | 190 °C (374 °F) -   |
| r) Viscosity                                    | No data available   |
| s) Explosive properties                         | No data available   |
| t) Oxidizing properties                         | No data available   |

**Other safety information**

Bulk density ca.800 kg/m<sup>3</sup>

**SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -**

**Reactivity**

No data available

**Chemical stability**

The product is chemically stable under standard ambient conditions (room temperature) .

**Possibility of hazardous reactions**

Generates dangerous gases or fumes in contact with: Strong acids

**Conditions to avoid** no  
information available

**Incompatible materials**

No data available

**Hazardous decomposition products**

In the event of fire: see section 5

**SECTION 11. ----- TOXICOLOGICAL INFORMATION -----****Acute toxicity**

LD50 Oral - Rat - male and female - > 2,000 mg/kg (OECD  
Test Guideline 420)

LC50 Inhalation - Rat - male and female - 4 h - > 5.05 mg/l (OECD Test  
Guideline 403)

Remarks:

(in analogy to similar products)

LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD  
Test Guideline 402)

Remarks:

(in analogy to similar products)

The value is given in analogy to the following substances: disodium molybdate  
No data available

**Skin corrosion/irritation**

Skin - Rabbit

Result: No skin irritation - 4 h (OECD  
Test Guideline 404) Remarks:

(in analogy to similar products)

The value is given in analogy to the following substances: Molybdenum dioxide

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: No eye irritation (OECD  
Test Guideline 405) Remarks:

(in analogy to similar products)

The value is given in analogy to the following substances: Molybdenum dioxide

**Respiratory or skin sensitization**

Maximization Test - Guinea pig

Result: negative

(OECD Test Guideline 406)

Remarks:

(in analogy to similar products)

**Germ cell mutagenicity**

Micronucleus test Human

lymphocytes Result:

negative Remarks:

(in analogy to similar products)

The value is given in analogy to the following substances: Disodium molybdate dihydrate Ames test

Escherichia coli/Salmonella typhimurium Result:

negative

Remarks:

(in analogy to similar products)

The value is given in analogy to the following substances: Disodium molybdate dihydrate In vitro mammalian cell gene mutation test

mouse lymphoma cells

Result: negative Remarks:

(in analogy to similar products)

The value is given in analogy to the following substances: Disodium molybdate dihydrate

### **Carcinogenicity**

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

### **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

### **Additional Information**

Repeated dose toxicity - Rat - male and female - Oral - 92 Days - NOAEL (No observed adverse effect level) - 17 mg/kgRemarks:

(in analogy to similar products)

The value is given in analogy to the following substances: Disodium molybdate dihydrate Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

Symptoms of an acute molybdenum(VI) intoxication: diarrhoea, anaemia (decreased haemoglobin concentration in the blood), fatigue. Toxic effect on liver and kidneys after high doses.

Handle in accordance with good industrial hygiene and safety practice.

## **SECTION 12. ----- ECOLOGICAL INFORMATION -----**

### **Toxicity**

Toxicity to fish                      semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 420 mg/l - 96 h  
(OECD Test Guideline 203)  
Remarks: (anhydrous substance)

Toxicity to daphnia and other aquatic invertebrates                      static test EC50 - Daphnia magna (Water flea) - 79 mg/l - 48 h  
(OECD Test Guideline 202)  
Remarks: (anhydrous substance)

Toxicity to bacteria                      static test EC50 - activated sludge - 820 mg/l - 3 h  
(OECD Test Guideline 209)  
Remarks: (anhydrous substance)

**Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**Other adverse effects**

No data available

**SECTION 13. ----- DISPOSAL CONSIDERATIONS -----****Product**

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

**SECTION 14. ----- TRANSPORT INFORMATION -----****TDG**

Not regulated as a dangerous good

**IMDG**

Not dangerous goods

**IATA**

Not dangerous goods

**Further information**

Not classified as dangerous in the meaning of transport regulations.

**SECTION 15. ----- REGULATORY INFORMATION -----**

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

**SECTION 16. ----- OTHER INFORMATION -----**

Further information: no limited for paper copy, just for internal uses.  
For research use only. Not intended for human or animal diagnostic or therapeutic uses.

**Disclaimer**

The information provided on this SDS 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.

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**End of SDS**