

Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200

Initial preparation date: 09.21.2016

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Ammonium Molybdovanadate

SECTION 1: Identification

Product identifier

Product name: Ammonium Molybdovanadate

Product code: AM2584SS

Recommended use of the product and restriction on use

Relevant identified uses: Laboratory

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

United States

AquaPhoenix Scientific

860 Gitts Run Road

Hanover

PA 17331

(717) 632-1291

Emergency telephone number:

United States

Emergency Telephone No.: 800-255-3924

SECTION 2: Hazard(s) identification

GHS classification:

Skin corrosion, category 1A

Serious eye damage, category 1

Specific target organ toxicity - single exposure, category 3, respiratory irritation

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

Precautionary statements:

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P271 Use only outdoors or in a well-ventilated area.

P321 Specific treatment (see supplemental first aid instructions on this label).

P363 Wash contaminated clothing before reuse.

P304+P340+P310 If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for

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breathing. Immediately call a poison center or doctor/physician.

P301+P330+P331+P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353+P310 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing.

Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.

P305+P351+P338+P310 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.

P405 Store locked up.

P403+P233 Store in a well ventilated place. Keep container tightly closed.

P501 Dispose of contents and container as instructed in Section 13.

Hazards not otherwise classified: None

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 7732-18-5	Water	59
CAS number: 7647-01-0	Hydrochloric acid	38.94
CAS number: 12027-67-7	Ammonium Molybdate	1.7
CAS number: 7803-55-6	Ammonium Metavanadate	0.09

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Not determined or not applicable.

After inhalation:

Move exposed individual to fresh air

Loosen clothing as necessary and position individual in a comfortable position

Maintain an unobstructed airway

Immediately call a POISON CONTROL CENTER or seek medical attention

After skin contact:

Immediately remove all contaminated clothing

Wash affected area with soap and water

Immediately call a POISON CONTROL CENTER or seek medical attention

After eye contact:

Rinse/flush exposed eye(s) gently using water for 15-20 minutes

Remove contact lens(es) if able to do so during rinsing

Immediately call a POISON CONTROL CENTER or seek medical attention

After swallowing:

Immediately call a POISON CONTROL CENTER or seek medical attention

Do not induce vomiting

Rinse mouth and then drink plenty of water

Most important symptoms and effects, both acute and delayed

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Acute symptoms and effects:

Not determined or not applicable.

Delayed symptoms and effects:

Not determined or not applicable.

Immediate medical attention and special treatment**Specific treatment:**

Not determined or not applicable.

Notes for the doctor:

Not determined or not applicable.

SECTION 5: Firefighting measures

Extinguishing media**Suitable extinguishing media:**

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors

Special protective equipment for firefighters:

Wear protective eye wear, gloves and clothing

Refer to Section 8

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit

Special precautions:

Heating causes a rise in pressure, risk of bursting and combustion

Shut off sources of ignition

Carbon monoxide and carbon dioxide may form upon combustion

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation

Ensure air handling systems are operational

Wear protective eye wear, gloves and clothing

Environmental precautions:

Should not be released into the environment

Prevent from reaching drains, sewer or waterway

Methods and material for containment and cleaning up:

Absorb with non-combustible liquid-binding material (sand, diatomaceous earth (clay), acid binders, universal binders)

Dispose of contents / container in accordance with local regulations

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Avoid breathing mist or vapor.

Use only with adequate ventilation.

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Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

Store away from foodstuffs.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Ammonium Molybdate	12027-67-7	ACGIH TLV 0.5 mg/m ³ , as Mo (respirable fraction)
	Hydrochloric acid	7647-01-0	ACGIH TLV C 2.0 ppm
United States (OSHA)	Ammonium Molybdate	12027-67-7	OSHA PEL 5 mg/m ³ , as Mo
	Hydrochloric acid	7647-01-0	OSHA PEL C 5.0 ppm
	Hydrochloric acid	7647-01-0	OSHA PEL C 7.0 mg/m ³
NIOSH	Ammonium Molybdate	12027-67-7	NIOSH IDLH 1,000 mg/m ³ , as Mo
	Hydrochloric acid	7647-01-0	NIOSH REL C 5.0 ppm
	Hydrochloric acid	7647-01-0	NIOSH REL C 7.0 mg/m ³

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use or handling.

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance.

Respiratory protection:

When necessary, use NIOSH-approved breathing equipment.

General hygienic measures:

Wash hands before breaks and at the end of work.

Avoid contact with skin, eyes and clothing.

Perform routine housekeeping.

Wash contaminated clothing before reusing.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear, yellow liquid
Odor	Odorless
Odor threshold	Not available

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pH	Not available
Melting point/freezing point	Approx. 0°C
Initial boiling point/range	Approx. 100°C
Flash point (closed cup)	Not available
Evaporation rate	Not available
Flammability (solid, gas)	Not available
Upper flammability/explosive limit	Not available
Lower flammability/explosive limit	Not available
Vapor pressure	Not available
Vapor density	Not available
Density	Not available
Relative density	Approx. 1
Solubilities	Not determined or not available.
Partition coefficient (n-octanol/water)	Not available
Auto/Self-ignition temperature	Not available
Decomposition temperature	Not available
Dynamic viscosity	Not available
Kinematic viscosity	Not available
Explosive properties	Not determined or not available.
Oxidizing properties	Not determined or not available.

Other information

SECTION 10: Stability and reactivity

Reactivity:

Does not react under normal conditions of use and storage.

Chemical stability:

Stable under normal conditions of use and storage.

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

None known.

Incompatible materials:

None known.

Hazardous decomposition products:

None known.

SECTION 11: Toxicological information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Route	Result
Hydrochloric acid	inhalation	LC50 - Mouse - 1,108 ppm / 1h
Ammonium Metavanadate	inhalation	LC50 Inhalation - Rat - 7.8 mg/m3 4H
	oral	LD50 Oral - Rat - 58.1 mg/kg
	dermal	LD50 Dermal - Rabbit - 2102 mg/kg

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Skin corrosion/irritation

Assessment: Causes severe skin burns and eye damage

Product data: No data available.

Substance data:

Name	Result
Hydrochloric acid	Causes severe skin burns and eye damage.
Ammonium Metavanadate	Causes skin irritation

Serious eye damage/irritation

Assessment: Causes serious eye damage

Product data: No data available.

Substance data:

Name	Result
Ammonium Metavanadate	Causes eye irritation

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC):

Name	Classification
Hydrochloric acid	Group 3 - Not classifiable as to its carcinogenicity to humans

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

Name	Result
Ammonium Metavanadate	Suspected of causing genetic defects

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: May cause respiratory irritation

Product data: No data available.

Substance data:

Name	Result
Ammonium Metavanadate	Specific target organ toxicity - single exposure. Inhalation - May cause respiratory irritation

Specific target organ toxicity (repeated exposure)

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Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Information on likely routes of exposure: No data available.

Symptoms related to the physical, chemical and toxicological characteristics: No data available.

Other information: No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Chronic (long-term) toxicity

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11)

SECTION 14: Transport information

United States Transportation of dangerous goods (49 CFR DOT)

UN number	UN 1760
UN proper shipping name	Corrosive Liquid, N.O.S. (Sulfuric Acid Solution, Nitric Acid Solution),
UN transport hazard class(es)	8
Packing group	II
Environmental hazards	None
Special precautions for user	None



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International Maritime Dangerous Goods (IMDG)

UN number	UN 1760
UN proper shipping name	Corrosive Liquid, N.O.S. (Sulfuric Acid Solution, Nitric Acid Solution),
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	UN 1760
UN proper shipping name	Corrosive Liquid, N.O.S. (Sulfuric Acid Solution, Nitric Acid Solution),
UN transport hazard class(es)	8 
Packing group	II
Environmental hazards	None
Special precautions for user	None

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Bulk Name	None
Ship type	None
Pollution category	None

SECTION 15: Regulatory information

United States regulations

Inventory listing (TSCA):

12027-67-7	Ammonium Molybdate	Listed
7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Listed
7803-55-6	Ammonium Metavanadate	Listed

Significant New Use Rule (TSCA Section 5): Not determined.

Export notification under TSCA Section 12(b): Not determined.

SARA Section 311/312 hazards:

Acute	Chronic	Fire	Pressure	Reactive
No	No	No	No	No

SARA Section 302 extremely hazardous substances:

7647-01-0	Hydrochloric acid	Listed
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SARA Section 313 toxic chemicals:

7647-01-0	Hydrochloric acid	Listed
7803-55-6	Ammonium Metavanadate	Listed

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CERCLA:

7647-01-0	Hydrochloric acid	Listed	5000
7803-55-6	Ammonium Metavanadate	Listed	1000

RCRA:

7803-55-6	Ammonium Metavanadate	Listed	
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Section 112(r) of the Clean Air Act (CAA): Not determined.

Massachusetts Right to Know:

12027-67-7	Ammonium Molybdate	Not Listed
7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed
7803-55-6	Ammonium Metavanadate	Listed

New Jersey Right to Know:

12027-67-7	Ammonium Molybdate	Not Listed
7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed
7803-55-6	Ammonium Metavanadate	Not Listed

New York Right to Know:

12027-67-7	Ammonium Molybdate	Not Listed
7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed
7803-55-6	Ammonium Metavanadate	Listed

Pennsylvania Right to Know:

12027-67-7	Ammonium Molybdate	Not Listed
7647-01-0	Hydrochloric acid	Listed
7732-18-5	Water	Not Listed
7803-55-6	Ammonium Metavanadate	Listed

California Proposition 65: Not determined.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no

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liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

NFPA: 3-0-0

HMIS: 3-0-0

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End of Safety Data Sheet