According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 11.13.2017 Page 1 of 9

Ammonium Meta-Vanadate, ACS

SECTION 1: Identification

Product identifier

Product name: Ammonium Meta-Vanadate, ACS

Product code: AV2000

Recommended use of the product and restriction on use

Relevant identified uses: Laboratory Chemicals

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, Inc. 860 Gitts Run Road Hanover, PA 17331 1-717-632-1291

Emergency telephone number:

United States

ChemTel Inc

+1(800)255-3924

+1(813)248-0585

SECTION 2: Hazard identification

GHS classification:

Acute toxicity (oral), category 3

Acute toxicity (inhalation), category 1

Skin irritation, category 2

Eye irritation, category 2A

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

Germ cell mutagenicity, category 2

Reproductive toxicity, category 2

Acute aquatic hazard, category 2

Chronic aquatic hazard, category 2

Label elements

Hazard pictograms:









Signal word: Danger

Hazard statements:

H301 Toxic if swallowed H330 Fatal if inhaled H315 Causes skin irritation

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 11.13.2017 Page 2 of 9

Ammonium Meta-Vanadate, ACS

H319 Causes serious eye irritation

H335 May cause respiratory irritation

H341 Suspected of causing genetic defects

H361 Suspected of damaging fertility or the unborn child

H401 Toxic to aquatic life

H411 Toxic to aquatic life with long lasting effects

Precautionary statements:

P264 Wash skin thoroughly after handling

P270 Do not eat, drink or smoke when using this product

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

P271 Use only outdoors or in a well-ventilated area

P284 Wear respiratory protection

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

P201 Obtain special instructions before use

P202 Do not handle until all safety precautions have been read and understood

P273 Avoid release to the environment

P301+P330+P312 IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

P320 Specific treatment is urgent (see ... on this label)

P304+P340+P310 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

P362 Take off contaminated clothing and wash before reuse

P302+P352 If on skin: Wash with soap and water

P332+P313 If skin irritation occurs: Get medical advice/attention

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

P308+P313 If exposed or concerned: Get medical advice/attention

P391 Collect spillage

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: 7803-55-6	Ammonium Meta-Vanadate	100

Additional Information: None

SECTION 4: First-aid measures

Description of first-aid measures

General notes:

Not determined or not available.

After inhalation:

Loosen clothing as necessary and position individual in a comfortable position Maintain an unobstructed airway

Generated by SDSPublisher (patent-pending) www.GSMSDS.com, 1-813-435-5161

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 11.13.2017 Page 3 of 9

Ammonium Meta-Vanadate, ACS

Move exposed individual to fresh air

Immediately call a POISON CONTROL CENTER or seek medical attention

After skin contact:

Rinse affected area with soap and water

If symptoms develop or persist, seek medical attention

Wash affected area with soap and water

Seek medical attention if symptoms develop or persist

After eye contact:

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

If symptoms develop or persist, seek medical attention

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

Seek medical attention if irritation persists or if concerned

After ingestion:

Rinse mouth thoroughly

Seek medical attention if irritation, discomfort, or vomiting persists

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

Acute symptoms and effects:

Not determined or not available.

Delayed symptoms and effects:

Not determined or not available.

Immediate medical attention and special treatment

Specific treatment:

Not determined or not available.

Notes for the doctor:

Not determined or not available.

SECTION 5: Fire-fighting 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

Special precautions:

Avoid inhaling gases, fumes, dust, mist, vapor and aerosols

Avoid contact with skin, eyes and clothing

SECTION 6: Accidental release measures

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 11.13.2017 Page 4 of 9

Ammonium Meta-Vanadate, ACS

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:

Wear protective eye wear, gloves and clothing

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Do not eat, drink, smoke or use personal products when handling chemical substances.

Avoid breathing mist or vapor.

Conditions for safe storage, including any incompatibilities:

Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

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

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.

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.

SECTION 9: Physical and chemical properties

Initial preparation date: 11.13.2017 Page 5 of 9

Ammonium Meta-Vanadate, ACS

Information on basic physical and chemical properties

Appearance (physical state, color):	White or slightly yellow, crystalline powder
Odor:	Not determined or not available.
Odor threshold:	Not determined or not available.
pH-value:	Not determined or not available.
Melting/Freezing point:	200°C
Boiling point/range:	Not determined or not available.
Flash point:	Not determined or not available.
Evaporation rate:	Not determined or not available.
Flammability (solid, gaseous):	Not flammable.
Explosion limit upper:	Not determined or not available.
Explosion limit lower:	Not determined or not available.
Vapor pressure:	Not determined or not available.
Vapor density:	Not determined or not available.
Density:	Not determined or not available.
Relative density:	2.32 g/cm3 at 25 °C (77 °F)
Solubilities:	Soluble in water.
Partition coefficient (n-octanol/water):	Not determined or not available.
Auto/Self-ignition temperature:	Not determined or not available.
Decomposition temperature:	200°C
Dynamic viscosity:	Not determined or not available.
Kinematic viscosity:	Not determined or 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:

Strong acids and oxidizing agents.

Hazardous decomposition products:

Vanadium/vanadium oxides. Borane/boron oxides. Nitrogen oxides (NOx). sulfur oxides.

SECTION 11: Toxicological information

Acute toxicity

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 11.13.2017 Page 6 of 9

Ammonium Meta-Vanadate, ACS

Assessment: Toxic if swallowed Fatal if inhaled

Product data: No data available.

Substance data:

Name	Route	Result
Ammonium Meta-Vanadate	inhalation	LC50 Inhalation - Rat - 7.8 mg/m3 4H
	oral	LD50 Oral - Rat - 58.1 mg/kg
	dermal	LD50 Dermal - Rabbit - 2102 mg/kg

Skin corrosion/irritation

Assessment: Causes skin irritation **Product data:** No data available.

Substance data:

Name	Result
Ammonium Meta-Vanadate	Causes skin irritation

Serious eye damage/irritation

Assessment: Causes serious eye irritation

Product data: No data available.

Substance data:

Name	Result
Ammonium Meta-Vanadate	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): None of the ingredients are listed.

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

Germ cell mutagenicity

Assessment: Suspected of causing genetic defects

Product data: No data available.

Substance data:

Name	Result
Ammonium Meta-Vanadate	Suspected of causing genetic defects

Reproductive toxicity

Assessment: Suspected of damaging fertility or the unborn child

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.

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 11.13.2017 Page 7 of 9

Ammonium Meta-Vanadate, ACS

Substance data:

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

Specific target organ toxicity (repeated exposure)

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: Toxic to aquatic life 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

Canadian Transportation of Dangerous Goods (TDG)

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 11.13.2017 Page 8 of 9

Ammonium Meta-Vanadate, ACS

UN number	UN 2859
UN proper shipping name	Ammonium metavanadate
UN transport hazard class(es)	6 Poison
Packing group	II
Environmental hazards	Marine Pollutant
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	UN 2859
UN proper shipping name	Ammonium metavanadate
UN transport hazard class(es)	6
Packing group	II
Environmental hazards	Marine Pollutant
Special precautions for user	None

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

UN number	UN 2859	
UN proper shipping name	Ammonium metavanadate	
UN transport hazard class(es)	6 POISON	\langle
Packing group	II	
Environmental hazards	Marine Pollutant	
Special precautions for user	None	

SECTION 15: Regulatory information

Canada regulations

Domestic substances list (DSL):

7803-55-6	Ammonium Meta-Vanadate	Listed	
-----------	------------------------	--------	--

Non-domestic substances list (NDSL): 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

According to Canadian Hazardous Products Regulations and WHMIS 2015

Initial preparation date: 11.13.2017 Page 9 of 9

Ammonium Meta-Vanadate, ACS

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 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: 4-0-0 **HMIS:** 4-0-0-X

Initial preparation date: 11.13.2017

End of Safety Data Sheet