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Revision Number 2

**Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****Product identifier****Product Name** AAV1**Other means of identification****Product Description** 1000 µg/mL: V**Recommended use of the chemical and restrictions on use****Recommended Use** Laboratory chemicals**Restriction on Use** No information available**Details of the supplier of the safety data sheet**

|         |                                                                                                                                          |                |                            |
|---------|------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|
| Company | Inorganic Ventures<br>300 Technology Drive<br>Christiansburg, VA 24073<br>Phone: 1(800) 669-6799<br>Email:<br>info@inorganicventures.com | E-mail Address | info@inorganicventures.com |
|---------|------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------|

**Emergency telephone number****Emergency Telephone** Chemtrec 1-800-424-9300 (US)  
+34.678750066**Section 2: HAZARDS IDENTIFICATION****Classification**

|                                   |             |
|-----------------------------------|-------------|
| Skin corrosion/irritation         | Category 2  |
| Serious eye damage/eye irritation | Category 2A |
| Carcinogenicity                   | Category 1A |
| Reproductive toxicity             | Category 2  |
| Effects on or via lactation       | Yes         |

**Label Elements****Danger****Hazard statements**

Causes skin irritation  
Causes serious eye irritation  
May cause cancer  
Suspected of damaging fertility or the unborn child  
May cause harm to breast-fed children

**Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Do not breathe dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention

**Skin**

IF ON SKIN: Wash with plenty of water and soap  
If skin irritation occurs: Get medical advice/attention  
Take off contaminated clothing and wash it before reuse

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Information**

Harmful to aquatic life

**Unknown acute toxicity** 1.4 % of the mixture consists of ingredient(s) of unknown toxicity

1.4 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

1.4 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

1.4 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****Substance**

Not applicable.

**Mixture**

| Chemical name | CAS No. | Weight-% | Hazardous Material<br>Information Review Act | Date HMIRA filed and<br>date exemption granted (if |
|---------------|---------|----------|----------------------------------------------|----------------------------------------------------|
|---------------|---------|----------|----------------------------------------------|----------------------------------------------------|

|                    |           |         | registry number (HMIRA<br>registry #) | applicable) |
|--------------------|-----------|---------|---------------------------------------|-------------|
| Nitric acid        | 7697-37-2 | 1.4     | -                                     |             |
| Vanadium pentoxide | 1314-62-1 | 0.17843 | -                                     |             |

## Section 4: FIRST AID MEASURES

### Description of first aid measures

|                |                                                                                                                      |
|----------------|----------------------------------------------------------------------------------------------------------------------|
| General advice | IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.      |
| Inhalation     | Remove to fresh air.                                                                                                 |
| Eye contact    | Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician. |
| Skin contact   | Wash skin with soap and water.                                                                                       |
| Ingestion      | Clean mouth with water and drink afterwards plenty of water.                                                         |

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

|          |                           |
|----------|---------------------------|
| Symptoms | No information available. |
|----------|---------------------------|

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

|                    |                        |
|--------------------|------------------------|
| Note to physicians | Treat symptomatically. |
|--------------------|------------------------|

## Section 5: FIRE FIGHTING MEASURES

|                                                |                                                                                                                                    |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Suitable Extinguishing Media                   | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.                            |
| Unsuitable extinguishing media                 | CAUTION: Use of water spray when fighting fire may be inefficient.                                                                 |
| Specific hazards arising from the chemical     | No information available.                                                                                                          |
| Explosion data                                 |                                                                                                                                    |
| Sensitivity to mechanical impact               | None.                                                                                                                              |
| Sensitivity to static discharge                | None.                                                                                                                              |
| Special protective equipment for fire-fighters | Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment. |

## Section 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

|                      |                                                          |
|----------------------|----------------------------------------------------------|
| Personal precautions | Ensure adequate ventilation.                             |
| Other information    | Refer to protective measures listed in Sections 7 and 8. |

**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** Pick up and transfer to properly labeled containers.

**Section 7: HANDLING AND STORAGE****Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****Control Parameters****Exposure Limits**

| Chemical name                   | Alberta                                                                               | British Columbia            | Ontario TWAEV               | Quebec                                                                                |
|---------------------------------|---------------------------------------------------------------------------------------|-----------------------------|-----------------------------|---------------------------------------------------------------------------------------|
| Nitric acid<br>7697-37-2        | TWA: 2 ppm<br>TWA: 5.2 mg/m <sup>3</sup><br>STEL: 4 ppm<br>STEL: 10 mg/m <sup>3</sup> | TWA: 2 ppm<br>STEL: 4 ppm   | TWA: 2 ppm<br>STEL: 4 ppm   | TWA: 2 ppm<br>TWA: 5.2 mg/m <sup>3</sup><br>STEL: 4 ppm<br>STEL: 10 mg/m <sup>3</sup> |
| Vanadium pentoxide<br>1314-62-1 | TWA: 0.05 mg/m <sup>3</sup>                                                           | TWA: 0.05 mg/m <sup>3</sup> | TWA: 0.05 mg/m <sup>3</sup> | TWA: 0.05 mg/m <sup>3</sup>                                                           |

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** No special protective equipment required.

**Hand protection** Wear suitable gloves.

**Skin and body protection** Wear suitable protective clothing.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|                |                          |
|----------------|--------------------------|
| Physical state | Liquid                   |
| Appearance     | clear /GREEN             |
| Odor           | No information available |
| Odor threshold | No information available |

| <u>Property</u>                        | <u>Values</u>            |                                         |                   |
|----------------------------------------|--------------------------|-----------------------------------------|-------------------|
| Melting point / freezing point         | No data available        | pH                                      | No data available |
| Flash point                            | No data available        | Initial boiling point and boiling range | 100 °C / 212 °F   |
| Flammability                           | No data available        | Evaporation rate                        | No data available |
| Upper flammability or explosive limits | No data available        | Flammability Limit in Air               |                   |
| Lower flammability or explosive limits | No data available        |                                         |                   |
| Vapor pressure                         | No data available        | Relative vapor density                  | No data available |
| Relative Density                       | No information available | Water solubility                        | No data available |
| None known                             |                          | Solubility in other solvents            |                   |
| Partition coefficient: n-octanol/water | No data available        | Autoignition temperature                | No data available |
| Hyphen                                 | No data available        | Kinematic viscosity                     | No data available |
| Dynamic viscosity                      | No data available        | None known                              |                   |

### Other information

|                      |                           |
|----------------------|---------------------------|
| Explosive properties | No information available. |
| Oxidizing properties | No information available. |
| Softening point      | No information available. |
| Molecular Weight     | No information available. |
| VOC content          | No information available. |
| Liquid Density       | No information available. |
| Bulk density         | No information available. |

## Section 10: STABILITY AND REACTIVITY

|                                    |                                           |
|------------------------------------|-------------------------------------------|
| Reactivity                         | No information available.                 |
| Chemical stability                 | Stable under normal conditions.           |
| Possibility of hazardous reactions | None under normal processing.             |
| Hazardous polymerization           | None under normal processing.             |
| Conditions to Avoid                | None known based on information supplied. |
| Incompatible materials             | None known based on information supplied. |
| Hazardous decomposition products   | Nitrogen oxides (NOx).                    |

## Section 11: TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

|                     |                                                                   |
|---------------------|-------------------------------------------------------------------|
| <b>Inhalation</b>   | Specific test data for the substance or mixture is not available. |
| <b>Eye contact</b>  | Specific test data for the substance or mixture is not available. |
| <b>Skin contact</b> | Specific test data for the substance or mixture is not available. |
| <b>Ingestion</b>    | Specific test data for the substance or mixture is not available. |

#### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** No information available.

#### Acute toxicity

#### **Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

|                                      |                 |
|--------------------------------------|-----------------|
| <b>ATEmix (oral)</b>                 | 56,044.40 mg/kg |
| <b>ATEmix (dermal)</b>               | 99,999.00 mg/kg |
| <b>ATEmix (inhalation-gas)</b>       | 99,999.00 mg/l  |
| <b>ATEmix (inhalation-dust/mist)</b> | 15.7334 mg/l    |
| <b>ATEmix (inhalation-vapor)</b>     | 230.10 mg/l     |

**Unknown acute toxicity** 1.4 % of the mixture consists of ingredient(s) of unknown toxicity  
 1.4 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 1.4 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 1.4 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

#### **Component Information**

| Chemical name                   | Oral LD50          | Dermal LD50          | Inhalation LC50                                   |
|---------------------------------|--------------------|----------------------|---------------------------------------------------|
| Nitric acid<br>7697-37-2        | -                  | -                    | = 2500 ppm ( Rat ) 1 h                            |
| Vanadium pentoxide<br>1314-62-1 | = 10 mg/kg ( Rat ) | > 2500 mg/kg ( Rat ) | = 4.4 mg/L ( Rat ) 4 h<br>= 2.21 mg/L ( Rat ) 4 h |

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                                          |                                                         |
|------------------------------------------|---------------------------------------------------------|
| <b>Skin corrosion/irritation</b>         | No information available.                               |
| <b>Serious eye damage/eye irritation</b> | No information available.                               |
| <b>Respiratory or skin sensitization</b> | No information available.                               |
| <b>Germ cell mutagenicity</b>            | No information available.                               |
| <b>Carcinogenicity</b>                   | Classification based on data available for ingredients. |

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical name                   | ACGIH                                         | IARC                                                                           | NTP | OSHA    |
|---------------------------------|-----------------------------------------------|--------------------------------------------------------------------------------|-----|---------|
| Nitric acid<br>7697-37-2        | -                                             | Group 1 - Carcinogenic to humans<br>Group 2A - Probably carcinogenic to humans | -   | Present |
| Vanadium pentoxide<br>1314-62-1 | A3 - Confirmed Animal Carcinogen with Unknown | Group 2B - Possibly carcinogenic to humans                                     | -   | Present |

|  |                     |  |  |  |
|--|---------------------|--|--|--|
|  | Relevance to Humans |  |  |  |
|--|---------------------|--|--|--|

**Legend****ACGIH (American Conference of Governmental Industrial Hygienists)**

A3 - Animal Carcinogen

**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 2B - Possibly Carcinogenic to Humans

|                                 |                                                                                             |
|---------------------------------|---------------------------------------------------------------------------------------------|
| <b>Reproductive toxicity</b>    | Classification based on data available for ingredients. May cause harm to breastfed babies. |
| <b>STOT - single exposure</b>   | No information available.                                                                   |
| <b>STOT - repeated exposure</b> | No information available.                                                                   |
| <b>Aspiration hazard</b>        | No information available.                                                                   |

**Section 12: ECOLOGICAL INFORMATION**

|                                      |                                                                           |
|--------------------------------------|---------------------------------------------------------------------------|
| <b>Ecotoxicity</b>                   | The environmental impact of this product has not been fully investigated. |
| <b>Persistence and Degradability</b> | No information available.                                                 |
| <b>Bioaccumulation</b>               | No information available.                                                 |

**Component Information**

| Chemical name            | Partition coefficient |
|--------------------------|-----------------------|
| Nitric acid<br>7697-37-2 | -2.3                  |

**Section 13: DISPOSAL CONSIDERATIONS****Waste treatment methods**

|                                            |                                                                                                                 |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Waste from residues/unused products</b> | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| <b>Contaminated packaging</b>              | Do not reuse empty containers.                                                                                  |

**Section 14: TRANSPORT INFORMATION****IMDG**

|                                           |                                            |
|-------------------------------------------|--------------------------------------------|
| <b>14.1. UN-No</b>                        | UN3264                                     |
| <b>14.2. Proper shipping name</b>         | Corrosive liquid, acidic, inorganic, n.o.s |
| <b>14.3. Transport hazard class(es)</b>   | 8                                          |
| <b>14.4. Packing Group</b>                | III                                        |
| <b>Description</b>                        | Not applicable                             |
| <b>14.5. Marine Pollutant</b>             | None                                       |
| <b>14.6. Special Provisions</b>           | None                                       |
| <b>No information available Transport</b> | No information available                   |

in bulk according  
to Annex II of MARPOL 73/78 and  
the IBC Code

**RID**

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| 14.1. UN-No                      | UN3264                                     |
| 14.2. Proper shipping name       | Corrosive liquid, acidic, inorganic, n.o.s |
| 14.3. Transport hazard class(es) | 8                                          |
| 14.4. Packing Group              | III                                        |
| Description                      | Not applicable                             |
| 14.5. Environmental hazard       | None                                       |
| 14.6. Special Provisions         | None                                       |

**ADR**

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| 14.1. UN-No                      | UN3264                                     |
| 14.2. Proper shipping name       | Corrosive liquid, acidic, inorganic, n.o.s |
| 14.3. Transport hazard class(es) | 8                                          |
| 14.4. Packing Group              | III                                        |
| Description                      | Not applicable                             |
| 14.5. Environmental hazard       | None                                       |
| 14.6. Special Provisions         | None                                       |

**ICAO**

|                            |                                            |
|----------------------------|--------------------------------------------|
| 14.1. UN-No                | UN3264                                     |
| 14.2. Proper Shipping Name | Corrosive liquid, acidic, inorganic, n.o.s |
| 14.3. Hazard Class         | 8                                          |
| 14.4. Packing Group        | III                                        |
| Description                | Not applicable                             |
| 14.5. Environmental hazard | None                                       |
| 14.6. Special Provisions   | None                                       |

**IATA-DGR**

|                                  |                                            |
|----------------------------------|--------------------------------------------|
| 14.1. UN-No                      | UN3264                                     |
| 14.2. Proper shipping name       | Corrosive liquid, acidic, inorganic, n.o.s |
| 14.3. Transport hazard class(es) | 8                                          |
| 14.4. Packing Group              | III                                        |
| Description                      | Not applicable                             |
| 14.5. Environmental hazard       | None                                       |
| 14.6. Special Provisions         | None                                       |

## Section 15: REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**International Regulations**

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

**International Inventories**

|               |          |
|---------------|----------|
| TSCA          | Complies |
| DSL/NDL       | Complies |
| EINECS/ELINCS | Complies |
| ENCS          | Complies |
| IECSC         | Complies |
| KECL          | Complies |

PICCS Complies  
AIIC Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances

**Section 16: OTHER INFORMATION**

|             |                           |                       |                           |                                           |
|-------------|---------------------------|-----------------------|---------------------------|-------------------------------------------|
| <b>NFPA</b> | <b>Health hazards</b> 2   | <b>Flammability</b> 0 | <b>Instability</b> 0      | <b>Physical and chemical properties</b> - |
| <b>HMIS</b> | <b>Health hazards</b> 2 * | <b>Flammability</b> 0 | <b>Physical hazards</b> 0 | <b>Personal protection</b> X              |

**Key or legend to abbreviations and acronyms used in the safety data sheet****LEG8 Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

|        |                             |        |                                  |
|--------|-----------------------------|--------|----------------------------------|
| LEGTWA | TWA (time-weighted average) | LEGST  | STEL (Short Term Exposure Limit) |
| LEGC   | Maximum limit value         | LEGSKN | Skin designation                 |

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 Environmental Protection Agency  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 U.S. National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 RTECS (Registry of Toxic Effects of Chemical Substances)  
 World Health Organization

**Revision date** 07-May-2026

**Revision Note** No information available.

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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

materials or in any process, unless specified in the text.

**End of SDS**