



# SAFETY DATA SHEET

Issuing Date 03-Sep-2015

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Revision Number 1

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### Product Identifier

Product Name/Catalog ID AAV1

### Other means of identification

Product Description 1000 µg/mL Vanadium

### Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals.

Uses advised against No information available

### Details of the supplier of the safety data sheet

#### **Company**

Inorganic Ventures  
300 Technology Drive  
Christiansburg, VA 24073  
web: www.inorganicventures.com

E-mail Address info@inorganicventures.com

### Emergency Telephone Number

Chemtrec 1-800-424-9300 (US)  
Canutec - 1-613-996-6666 (Canada)

## 2. HAZARDS IDENTIFICATION

### GHS

#### Classification

Skin corrosion/irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Carcinogenicity	Category 2
Reproductive Toxicity	Category 2

#### Label Elements

#### Warning

#### **Hazard Statements**

Causes skin irritation  
Causes serious eye irritation  
Suspected of causing cancer  
Suspected of damaging fertility or the unborn child

**Appearance** Clear / Yellow**Physical State** Liquid**Odor** Odorless**Precautionary Statements - Prevention**

Do not handle until all safety precautions have been read and understood  
 Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response****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 soap and water  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash before reuse

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)****Other Information**

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Nitric acid	7697-37-2	2
Vanadium pentoxide	1314-62-1	0.18

### 4. FIRST AID MEASURES

**First Aid Measures**

<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin Contact</b>	Wash skin with soap and water.
<b>Inhalation</b>	Move to fresh air.
<b>Ingestion</b>	Clean mouth with water and afterwards drink plenty of water.

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

**Unsuitable Extinguishing Media** Decomposition by contact with water may generate vapors which can be ignited by heat or open flame.

**Special Exposure Hazards Arising from the Substance/Mixture**

Thermal decomposition can lead to release of irritating gases and vapors

**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 Precautions** Ensure adequate ventilation.

**Environmental Precautions**

**Environmental Precautions** Prevent further leakage or spillage if safe to do so. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

**Methods and material for containment and cleaning up**

**Methods for Cleaning up** Dam up. Neutralise with lime; soda. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

**7. HANDLING AND STORAGE****Precautions for Safe Handling****Conditions for safe storage, including any incompatibilities**

**Technical measures/Precautions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible Products** None known based on information supplied.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nitric acid 7697-37-2	4 ppm STEL TWA: 2 ppm	TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> (vacated) TWA: 2 ppm (vacated) TWA: 5 mg/m <sup>3</sup> (vacated) STEL: 4 ppm (vacated) STEL: 10 mg/m <sup>3</sup>	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> STEL: 4 ppm STEL: 10 mg/m <sup>3</sup>
Vanadium pentoxide 1314-62-1	TWA: 0.05 mg/m <sup>3</sup>		IDLH: 35 mg/m <sup>3</sup> Ceiling: 0.05 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering Measures**                      Ensure adequate ventilation, especially in confined areas.

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

**Respiratory Protection**                      When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

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

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Physical State</b>	Liquid
<b>Appearance</b>	Clear / Yellow
<b>Odor</b>	Odorless
<b><u>Property</u></b>	<b><u>Values</u></b>
<b>pH VALUE</b>	No data available
<b>Melting Point/Range</b>	No data available
<b>Boiling Point/Range</b>	100 °C
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Relative Density</b>	No data available
<b>Specific Gravity</b>	No data available
<b>Water Solubility</b>	Miscible
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available
<b><u>Other information</u></b>	
<b>VOC Content</b>	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.

**Hazardous Polymerization**                      Hazardous polymerization does not occur.

**Conditions to Avoid**

None known.

**Incompatible Materials**

Reducing agents

**Hazardous Decomposition Products**

Nitrogen oxides (NOx).

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Product Information** Product does not present an acute toxicity hazard based on known 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.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nitric acid 7697-37-2 ( 2 )	-	-	= 130 mg/m <sup>3</sup> ( Rat ) 4 h = 67 ppm ( Rat ) 4 h
Vanadium pentoxide 1314-62-1 ( 0.18 )	221.1 - 715.7 mg/kg ( Rat )	= 50 mg/kg ( Rabbit )	= 2.21 mg/L ( Rat ) 4 h

### 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.

**Carcinogenic effects**

Chemical Name	ACGIH	IARC	NTP	OSHA
Nitric acid 7697-37-2		Group 2A		X
Vanadium pentoxide 1314-62-1	A3	Group 2B		X

**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

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

ATEmix (inhalation-dust/mist) 1090 mg/L

ATEmix (inhalation-vapor) 3350 mg/L

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### **Ecotoxicity effects**

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

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Nitric acid 7697-37-2		72: 96 h Gambusia affinis mg/L LC50		

#### **Persistence and Degradability**

No information available.

#### **Bioaccumulation/Accumulation**

No information available.

Chemical Name	Log Pow
Nitric acid 7697-37-2	-2.3

Other Adverse Effects**13. DISPOSAL CONSIDERATIONS**Waste treatment methods

**Waste from Residues/Unused Products** Dispose of in accordance with federal, state and local regulations

**Contaminated Packaging** Do not re-use empty containers.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Vanadium pentoxide 1314-62-1	P120			

Chemical Name	California Hazardous Waste Status
Nitric acid 7697-37-2	Toxic Corrosive Ignitable
Vanadium pentoxide 1314-62-1	Toxic

**14. TRANSPORT INFORMATION**IMDG/IMO

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. Marine Pollutant None.

14.6. Special Provisions None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

RID

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

ADR

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

ICAO

14.1. UN-No UN3264

14.2. Proper Shipping Name Corrosive liquid, acidic, inorganic, n.o.s

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

## 15. REGULATORY INFORMATION

### International Inventories

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies

*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*

*DSL/NDSL - 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*

### U.S. Federal Regulations

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

#### **SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	No
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

#### **Clean Water Act**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Nitric acid 7697-37-2	1000 lb			X
Vanadium pentoxide 1314-62-1	1000 lb			X

#### **CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Nitric acid 7697-37-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Vanadium pentoxide 1314-62-1	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

**U.S. State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Vanadium pentoxide - 1314-62-1	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Nitric acid 7697-37-2	X	X	X
Vanadium pentoxide 1314-62-1	X	X	X

**U.S. EPA Label Information****16. OTHER INFORMATION**

Revision Date 03-Sep-2015

**Revision Note**

No information available

**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.

**End of MSDS**