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Revision Number 1

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****Product Identifier****Product Name/Catalog ID** AAMN1**Other means of identification****Product Description** 1000 µg/mL Manganese**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 1

**Label Elements****Danger****Hazard Statements**Causes skin irritation  
Causes serious eye damage**Appearance** Clear / Pink**Physical State** Liquid**Odor** Odorless

**Precautionary Statements - Prevention**

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  
Immediately call a POISON CENTER or doctor/physician

**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

**Hazards not otherwise classified (HNOC)****Other Information****3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS-No	Weight %
Nitric acid	7697-37-2	3

**4. FIRST AID MEASURES****First Aid Measures**

<b>General Advice</b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<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>	Immediate medical attention is required. Move to fresh air. Artificial respiration and/or oxygen may be necessary. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
<b>Ingestion</b>	Clean mouth with water and afterwards drink plenty of water.
<b>Protection of First-aiders</b>	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

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

**Most Important Symptoms/Effects** Difficulty breathing.

**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 and toxic 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**

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Use personal protective equipment. Do not get in eyes, on skin, or on clothing.

**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****Handling**

Wear personal protective equipment. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist.

**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>

**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. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical State</b>	Liquid
<b>Appearance</b>	Clear / Pink
<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**

<b>Product Information</b>	Harmful by inhalation
<b>Inhalation</b>	There is no data available for this product.
<b>Eye Contact</b>	There is no data available for this product.
<b>Skin Contact</b>	There is no data available for this product.
<b>Ingestion</b>	There is no data available for this product.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nitric acid 7697-37-2 ( 3 )	-	-	= 130 mg/m <sup>3</sup> ( Rat ) 4 h = 67 ppm ( 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

<b>Reproductive Toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	May cause disorder and damage to the: Nervous system. Lungs. Respiratory system.
<b>Neurological Effects</b>	Prolonged or excessive exposure to manganese in dust or fumes may cause irreversible central nervous system damage (Manganism). Symptoms resemble Parkinson's disease and include tremors, impaired speech, mask-like face, and impaired movement.
<b>Other Adverse Effects</b>	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
<b>Aspiration Hazard</b>	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) 726.7 mg/L

ATEmix (inhalation-vapor) 2233 mg/L

**12. ECOLOGICAL INFORMATION****Ecotoxicity****Ecotoxicity effects**

0.1% 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
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**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	California Hazardous Waste Status
Nitric acid 7697-37-2	Toxic Corrosive Ignitable

**Section 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

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**

<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

#### **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

### U.S. State Regulations

#### **California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Nitric acid 7697-37-2	X	X	X

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

Revision Date 25-Aug-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**