

1. IDENTIFICATION

Product identifier Product Name WS Vanadium

Other means of identification

Product Code PEI-144, QCI-144

UN/ID no. 2031

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use For Laboratory Use Only.

Uses advised against No information available

Details of the supplier of the safety data sheet Emergency telephone number

Company Phone Number 800-234-7837

FAX 919-789-3019

Website www.nsilabsolutions.com

E-mail address nsi@nsilabsolutions.com

Emergency Telephone 919-349-7322

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

Label elements

Emergency Overview

Danger

Hazard statements

H332: Harmful if inhaled

H314: Causes severe skin burns and eye damage



Appearance Clear / Colorless to light yellow

Physical state Liquid

Odor Odorless

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

Use only outdoors or in a well-ventilated area

Do not breathe dusts or mists

Wash face, hands and any exposed skin thoroughly after handling

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor

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

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

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC) Not applicable

Other Information

H411: Toxic to aquatic life with long lasting effects H402: Harmful to aquatic life

Unknown acute toxicity

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

3. COMPOSITION/INFORMATION ON INGREDIENTS**Substance**

Chemical Name	CAS No.	Weight-%
Water	7732-18-5	94-99
Nitric acid	7697-37-2	1-5
Ammonium metavanadate	7803-55-6	0-0.02

Refer to Certificate of Analysis for exact percentage and additional elements.

4. FIRST AID MEASURES**Description of first aid measures****General advice**

In case of accident or unwellness, seek medical advice immediately (show directions for use or Safety Data Sheet, if possible).

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation

Remove to fresh air. If symptoms persist, call a physician.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water and drink afterwards plenty of water. Consult a physician, if necessary.

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

The most important known symptoms and effects are described in Section 2 and/or Section 11.

Indication of any immediate medical attention and special treatment needed**Note to physicians**

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 No information available.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and/or 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, especially in confined areas. Use personal protective equipment, as required. Do not get in eyes, on skin, or on clothing. **For emergency responders** Ensure adequate ventilation.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Soak up condensate with inert absorbent material and collect in ventilated waste container for disposal.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards See Section 12: ECOLOGICAL INFORMATION.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid breathing vapors or mists. For precautions, see Section 2.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed in a dry and well-ventilated place. Store in accordance with local regulations.

Incompatible materials No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Water 773218-5	-	-	-
Nitric acid 7697-37-2	STEL: 4 ppm TWA: 2 ppm	TWA: 2 ppm TWA: 5 mg/m ³ (vacated) TWA: 2 ppm (vacated) TWA: 5 mg/m ³ (vacated) STEL: 4 ppm (vacated) STEL: 10 mg/m ³	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m ³ STEL: 4 ppm STEL: 10 mg/m ³
Ammonium metavanadate 7803-55-6	-	-	Ceiling: 0.05 mg/m ³ V dust and fume 15 min

Appropriate engineering controls

Engineering Controls Handle in accordance with good industrial hygiene and safety practice.

Individual protection measures, such as personal protective equipment

Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin and body protection Wear protective gloves and protective clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Wash hands thoroughly after handling.

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

Physical state Liquid

Appearance Color	Clear / Colorless to light yellow No information available	Odor Odor threshold	Odorless No information available
Property pH		Remarks • Method	
Melting point / freezing point	Values No data available.		
Boiling point / boiling range	No information available		
Flash point	No information available		
Evaporation rate	No information available		
Flammability (solid, gas)	No information available		
Flammability Limit in Air Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapor pressure	No information available		
Vapor density	No information available No information available		
Relative density	No information available		
Water solubility	No information available		
Solubility in other solvents	No information available		
Partition coefficient	Miscible in water		
Autoignition temperature	No information available		
Decomposition temperature	No information available		
Kinematic viscosity	No information available		
Dynamic viscosity	No information available		
Explosive properties	No information available		
Oxidizing properties	No information available		
Other Information	No information available		
Softening point			
Molecular weight			
VOC Content (%)	No information available		
Density	No information available		
Bulk density	No information available		

10. STABILITY AND REACTIVITY

Reactivity Hazardous polymerization does not occur.
No information available

Chemical stability
Stable under recommended storage
conditions. **Possibility of Hazardous
Reactions** No information available.
Hazardous polymerization

Conditions to avoid No
information available.

Incompatible materials
No information available.

Hazardous Decomposition Products
Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information No data
available

Inhalation No data
available.

Eye contact No data available.

Skin contact No data available.

Ingestion No data available.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water 7732-18-5	> 90 mL/kg (Rat)	-	-
Nitric acid 7697-37-2	-	-	= 130 mg/m ³ (Rat) 4 h = 67 ppm (Rat) 4 h
Ammonium metavanadate 780355-6	= 58100 µg/kg (Rat) = 58.1 mg/kg (Rat)	= 2102 mg/kg (Rat)	= 7800 µg/m ³ (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.

Germ cell mutagenicity No information available.

Carcinogenicity No components of this mixture at given concentrations are considered to be carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Other adverse effects 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) 2.60

ATEmix (inhalation-vapor) 1,340.00

12. ECOLOGICAL INFORMATION

Ecotoxicity

0.126 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Water 773218-5	-	-	-
Nitric acid 7697-37-2	-	72: 96 h Gambusia affinis mg/L LC50	-
Ammonium metavanadate 7803-55-6	-	1.5: 144 h Poecilia reticulata mg/L LC50	-

Persistence and degradability

No information available.

Bioaccumulation No information available.

Chemical Name	Partition coefficient
Water 773218-5	-
Nitric acid 7697-37-2	-2.3

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Do not reuse container.

Contaminated packaging

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Water 773218-5	-	-	-	-
Nitric acid 7697-37-2	-	-	-	-
Ammonium metavanadate 7803-55-6	P119	-	-	-
Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Water 7732-185	-	-	-	-

Nitric acid 7697-37-2	-	-	-	-
Chemical Name	California Hazardous Waste Status			
Water 7732-185	-			
Nitric acid 7697-37-2	Toxic Corrosive			
Ammonium metavanadate 7803-55-6	-			

14. TRANSPORT INFORMATION

DOT

This standard is packaged and shipped in accordance with 49 CFR 173.4: Hazardous Materials in Excepted Quantities.

UN/ID no. 2031
 Proper shipping name Nitric acid
 Hazard Class 8
 Packing Group II

IATA

UN/ID no. 2031
 Proper shipping name Nitric acid
 Hazard Class 8
 Packing Group II

IMDG

UN/ID no. 2031
 Proper shipping name Nitric acid
 Hazard Class 8 Packing Group II
 EmS-No. F-A, S-B

15. REGULATORY INFORMATION

International Inventories

TSCA Complies

DSL/NDL	Not Listed
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	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 Chemical Substances/European 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

US 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

Chemical Name	SARA 313 - Threshold Values %
Water - 7732-18-5	-
Nitric acid - 7697-37-2	1.0
Ammonium metavanadate - 7803-55-6	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
	S
Chronic Health Hazard	Yes
	S
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product, as supplied, does not contain any substances regulated as 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
Water 773218-5	-	-	-	-
Nitric acid 7697-37-2	1000 lb	-	-	X
Ammonium metavanadate 7803-55-6	-	-	-	-

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Water 7732-18-5	-	-	-
Nitric acid 7697-37-2	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Ammonium metavanadate 7803-55-6	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Water - 7732-18-5	-
Nitric acid - 7697-37-2	-
Ammonium metavanadate - 7803-55-6	-

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Water 773218-5	-	-	X
Nitric acid 7697-37-2	X	X	X
Ammonium metavanadate 7803-55-6	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA Health hazards 3 Flammability 0 Instability 0 Physical and Chemical Properties -
HMIS Health hazards 3* Flammability 0 Physical hazards 2 Personal protection X

Chronic Hazard Star Legend

* = Chronic Health Hazard

Issue Date 01-Feb-2022

Revision Date 01-Feb-2022

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 Safety Data Sheet