

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : Mercuric Nitrate, 0.35 g/L, for Vanadium  
Product code : LC16680

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : For laboratory and manufacturing use only.

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

LabChem Inc  
Jackson's Pointe Commerce Park Building 1000, 1010 Jackson's Pointe Court  
Zelienople, PA 16063 - USA  
T 412-826-5230 - F 724-473-0647  
[info@labchem.com](mailto:info@labchem.com) - [www.labchem.com](http://www.labchem.com)

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or 011-703-527-3887

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

STOT RE 2 H373

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS08

Signal word (GHS-US) : Warning  
Hazard statements (GHS-US) : H373 - May cause damage to organs (nervous system, kidneys, blood, intestinal tract) through prolonged or repeated exposure  
Precautionary statements (GHS-US) : P260 - Do not breathe mist, vapors, spray  
P314 - Get medical advice and attention if you feel unwell  
P501 - Dispose of contents/container to comply with local, state and federal regulations

#### 2.3. Other hazards

Other hazards not contributing to the classification : None under normal conditions.

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

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Name	Product identifier	%	Classification (GHS-US)
Water	(CAS No) 7732-18-5	99.91	Not classified
Nitric Acid, 70% w/w	(CAS No) 7697-37-2	0.05	Ox. Liq. 3, H272 Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318
Mercuric Nitrate, Dihydrate	(CAS No) 22852-67-1	0.04	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-phrases: see section 16

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Allow victim to breathe fresh air. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

- Symptoms/injuries : Causes damage to organs.
- Chronic symptoms : Impairment of the nervous system. Decreased renal function. Change in the haemogramme/blood composition.

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

Obtain medical assistance.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

#### 5.2. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

- Protective equipment : Safety glasses. Protective clothing. Gloves.
- Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

- Protective equipment : Equip cleanup crew with proper protection.
- Emergency procedures : Ventilate area.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

#### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing mist, vapors.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : incompatible materials. Keep container closed when not in use.

Incompatible products : Strong reducing agents. silver nitrate. Strong bases.

Incompatible materials : Sources of ignition. Direct sunlight.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

Mercuric Nitrate, 0.35 g/L, for Vanadium		
ACGIH	Not applicable	
OSHA	Not applicable	
Mercuric Nitrate, Dihydrate (22852-67-1)		
ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	0.1 mg/m³ as Hg
Nitric Acid, 70% w/w (7697-37-2)		
ACGIH	ACGIH TWA (ppm)	2 ppm
OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
OSHA	OSHA PEL (TWA) (ppm)	2 ppm
Water (7732-18-5)		
ACGIH	Not applicable	
OSHA	Not applicable	

#### 8.2. Exposure controls

Appropriate engineering controls : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation.

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : Wear appropriate mask.

Other information : Do not eat, drink or smoke during use.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Colorless

Odor : None.

Odor threshold : No data available

pH : No data available

Melting point : No data available

Freezing point : No data available

Boiling point : No data available

Flash point : No data available

Relative evaporation rate (butyl acetate=1) : No data available

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Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Solubility	: Soluble in water. Water: Solubility in water of component(s) of the mixture : • Mercuric Nitrate, Dihydrate: • Nitric Acid, 70% w/w:
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Not established.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

silver nitrate. Strong reducing agents. Strong bases.

### 10.6. Hazardous decomposition products

Nitrogen oxides. mercury.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure : Skin and eye contact

Acute toxicity : Not classified

Mercuric Nitrate, 0.35 g/L, for Vanadium	
LD50 oral rat	139674 mg/kg
LD50 dermal rat	13587 mg/kg
LC50 inhalation rat (mg/l)	131 mg/l/4h
ATE US (oral)	139674.000 mg/kg body weight
ATE US (dermal)	13587.000 mg/kg body weight
ATE US (vapors)	131.000 mg/l/4h
ATE US (dust, mist)	131.000 mg/l/4h
Mercuric Nitrate, Dihydrate (22852-67-1)	
LD50 oral rat	26 mg/kg (Rat)
LD50 dermal rat	75 mg/kg (Rat)
ATE US (oral)	26.000 mg/kg body weight
ATE US (dermal)	5.000 mg/kg body weight
ATE US (gases)	100.000 ppmV/4h

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Mercuric Nitrate, Dihydrate (22852-67-1)	
ATE US (vapors)	0.500 mg/l/4h
ATE US (dust, mist)	0.050 mg/l/4h
Water (7732-18-5)	
LD50 oral rat	≥ 90000 mg/kg
ATE US (oral)	90000.000 mg/kg body weight
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: May cause damage to organs (nervous system, kidneys, blood, intestinal tract) through prolonged or repeated exposure.
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Chronic symptoms	: Impairment of the nervous system. Decreased renal function. Change in the haemogramme/blood composition.

## SECTION 12: Ecological information

### 12.1. Toxicity

Mercuric Nitrate, 0.35 g/L, for Vanadium	
EC50 Daphnia 1	272 mg/l
Mercuric Nitrate, Dihydrate (22852-67-1)	
LC50 fish 1	< 1 mg/l (96 h; Pisces; Mercury ion)
LC50 other aquatic organisms 1	< 1 mg/l (96 h)
EC50 Daphnia 1	0.0052 mg/l (48 h; Daphnia magna; Mercury ion)
LC50 fish 2	0.033 ppm 96 h; Salmo gairdneri (Oncorhynchus mykiss)
Threshold limit other aquatic organisms 1	< 1 mg/l (96 h)
Threshold limit algae 1	0.4 ppm (Chlorella vulgaris; Mercury ion)
Nitric Acid, 70% w/w (7697-37-2)	
LC50 fish 1	25 - 36 mg/l (96 h; Lepomis macrochirus; Pure substance)
EC50 Daphnia 1	180 mg/l (48 h; Daphnia magna; Pure substance)
LC50 fish 2	72 ppm (Gambusia affinis; Pure substance)
Threshold limit algae 1	> 19 mg/l (Algae; Pure substance)

### 12.2. Persistence and degradability

Mercuric Nitrate, 0.35 g/L, for Vanadium	
Persistence and degradability	Not readily biodegradable in water. Non degradable in the soil.
Mercuric Nitrate, Dihydrate (22852-67-1)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Nitric Acid, 70% w/w (7697-37-2)	
Persistence and degradability	Biodegradability: not applicable. No test data on mobility of the components available.
Biochemical oxygen demand (BOD)	Not applicable

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Nitric Acid, 70% w/w (7697-37-2)	
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

Water (7732-18-5)	
Persistence and degradability	Not established.

### 12.3. Bioaccumulative potential

Mercuric Nitrate, 0.35 g/L, for Vanadium	
Bioaccumulative potential	Bioaccumable.

Mercuric Nitrate, Dihydrate (22852-67-1)	
Bioaccumulative potential	Bioaccumable.

Nitric Acid, 70% w/w (7697-37-2)	
BCF fish 1	<= 1 (Pisces)
Log Pow	-2.3 (OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method)
Bioaccumulative potential	Bioaccumulation: not applicable.

Water (7732-18-5)	
Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

### Additional information

Other information : No supplementary information available.

### ADR

No additional information available

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

Mercuric Nitrate, 0.35 g/L, for Vanadium	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Mercuric Nitrate, Dihydrate	CAS No 22852-67-1	0.04
Nitric Acid, 70% w/w	CAS No 7697-37-2	0.05

### Mercuric Nitrate, Dihydrate (22852-67-1)

Listed on United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of Lists)	10 lb
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### Nitric Acid, 70% w/w (7697-37-2)

Listed on United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
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SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
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## 15.2. International regulations

### CANADA

#### Mercuric Nitrate, 0.35 g/L, for Vanadium

WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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#### Mercuric Nitrate, Dihydrate (22852-67-1)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects
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#### Nitric Acid, 70% w/w (7697-37-2)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Class E - Corrosive Material Class C - Oxidizing Material
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#### Water (7732-18-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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### EU-Regulations

No additional information available

### Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

## National regulations

#### Mercuric Nitrate, Dihydrate (22852-67-1)

Listed on the Canadian IDL (Ingredient Disclosure List)

#### Nitric Acid, 70% w/w (7697-37-2)

Listed on the Canadian IDL (Ingredient Disclosure List)

#### Water (7732-18-5)

Not listed on the Canadian IDL (Ingredient Disclosure List)

## 15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity

#### Mercuric Nitrate, Dihydrate (22852-67-1)

U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	Yes	No	No	

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### SECTION 16: Other information

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 1 (Dermal)	Acute toxicity (dermal) Category 1
Acute Tox. 2 (Inhalation)	Acute toxicity (inhalation) Category 2
Acute Tox. 2 (Oral)	Acute toxicity (oral) Category 2
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
Ox. Liq. 3	Oxidizing liquids Category 3
Skin Corr. 1A	Skin corrosion/irritation Category 1A
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
H272	May intensify fire; oxidizer
H290	May be corrosive to metals
H300	Fatal if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

NFPA health hazard

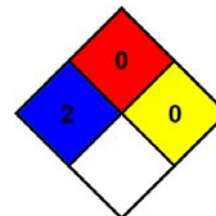
: 2 - Intense or continued exposure could cause temporary incapacitation or possible residual injury unless prompt medical attention is given.

NFPA fire hazard

: 0 - Materials that will not burn.

NFPA reactivity

: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health

: 2 Moderate Hazard - Temporary or minor injury may occur  
\* - Chronic (long-term) health effects may result from repeated overexposure

Flammability

: 0 Minimal Hazard - Materials that will not burn

Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal Protection

: C  
C - Safety glasses, Gloves, Synthetic apron

SDS US (GHS HazCom 2012)

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