

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Mercury(II) Nitrate Monohydrate

**Product Code:** HG2-NAT-04-C.1HYD

**CAS Number:** 7783-34-8

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification:

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

Acute oral toxicity Category 2

Acute dermal toxicity Category 1

Acute Inhalation Toxicity - Dusts and Mists Category 2

Specific target organ toxicity - (repeated exposure) Category 2

Signal Word:

Danger

Hazard Statements:

Fatal if swallowed

Fatal in contact with skin

Fatal if inhaled

May cause damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention:

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product  
Do not get in eyes, on skin, or on clothing  
Wear protective gloves/protective clothing/eye protection/face protection  
Do not breathe dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear respiratory protection  
Response:  
Get medical attention/advice if you feel unwell  
Inhalation:  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Immediately call a POISON CENTER or doctor/physician  
Skin:  
Immediately call a POISON CENTER or doctor/physician  
IF ON SKIN: Gently wash with plenty of soap and water  
Remove/Take off immediately all contaminated clothing  
Wash contaminated clothing before reuse  
Ingestion:  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
Rinse mouth  
Storage:  
Store locked up  
Store in a well-ventilated place. Keep container tightly closed  
Disposal:  
Dispose of contents/container to an approved waste disposal plant  
Hazards not otherwise classified (HNOC):  
Very toxic to aquatic life with long lasting effects  
WARNING. Reproductive Harm - <https://www.p65warnings.ca.gov/>.

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component / CAS-No:  
Mercury (II) nitrate, monohydrate / 7783-34-8

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### **SECTION 4. FIRST AID MEASURES**

General Advice:  
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.  
Eye Contact:  
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Skin Contact:  
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.  
Inhalation:  
Move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.  
Ingestion:  
Do not induce vomiting. Call a physician or Poison Control Center immediately.  
Most important symptoms and effects:

None reasonably foreseeable.

Notes to Physician:

Treat symptomatically

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## **SECTION 5. FIREFIGHTING MEASURES**

Suitable Extinguishing Media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media No information available

Flash Point No information available

Method - No information available

Autoignition Temperature

Explosion Limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical:

Very toxic. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous Combustion Products:

Nitrogen oxides (NO<sub>x</sub>) Mercury oxide

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. Thermal decomposition can lead to release of irritating gases and vapors

NFPA:

Health - 4

Flammability - 1

Instability - 1

Physical hazards

N/A

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal Precautions:

Ensure adequate ventilation. Avoid dust formation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental Precautions:

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment.

Methods for Containment and Clean Up:

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

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## **SECTION 7. HANDLING AND STORAGE**

Handling:

Wear personal protective equipment. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

Use only under a chemical fume hood. Do not breathe vapors/dust. Do not ingest.

Storage:

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from direct sunlight.

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Component:

Mercury (II) nitrate, monohydrate

ACGIH TLV:

TWA: 0.025 mg/m<sup>3</sup> Skin

OSHA PEL:

(Vacated) Ceiling: 0.1 mg/m<sup>3</sup>

NIOSH IDLH:

IDLH: 10 mg/m<sup>3</sup> TWA: 0.05 mg/m<sup>3</sup> Ceiling: 0.1 mg/m<sup>3</sup>

Mexico OEL (TWA):

TWA: 0.05 mg/m<sup>3</sup>

Engineering Measures:

Use only under a chemical fume hood. Ensure adequate ventilation, especially in confined areas.

Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye/face Protection:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection:

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures:

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State Powder Solid

Appearance Off-white

Odor slight nitric

Odor Threshold No information available

pH 3

Melting Point/Range 77 - 79 °C / 170.6 - 174.2 °F

Boiling Point/Range No information available

Flash Point No information available

Evaporation Rate Not applicable

Flammability (solid, gas) No information available

Flammability or explosive limits

Upper No data available

Lower No data available

Vapor Pressure No information available

Vapor Density Not applicable

Specific Gravity 4.39

Bulk Density 1200 kg/m<sup>3</sup>  
Solubility Soluble in water  
Partition coefficient; n-octanol/water No data available  
Autoignition Temperature  
Decomposition Temperature No information available  
Viscosity Not applicable  
Molecular Formula HgN<sub>2</sub>O<sub>6</sub> · H<sub>2</sub>O  
Molecular Weight 342.6

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## SECTION 10. STABILITY AND REACTIVITY

Reactive Hazard:

None known, based on information available

Stability:

Light sensitive.

Conditions to Avoid:

Avoid dust formation. Incompatible products. Excess heat. Exposure to light.

Incompatible Materials:

Alcohols, Ammonia, Cyanides, Reducing

Hazardous Decomposition Products:

Nitrogen oxides (NO<sub>x</sub>), Mercury oxide

Hazardous Polymerization:

No information available.

Hazardous Reactions:

None under normal processing

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## SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component: Mercury (II) nitrate, monohydrate

LD<sub>50</sub> Oral: LD<sub>50</sub> = 26 mg/kg ( Rat )

LD<sub>50</sub> Dermal: LD<sub>50</sub> = 75 mg/kg ( Rat )

LC<sub>50</sub> Inhalation: Not listed

Toxicologically Synergistic Products:

No information available

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

Irritation:

No information available

Sensitization:

No information available

Carcinogenicity

Component: Mercury(II) nitrate, monohydrate

CAS-No: 7783-34-8

IARC: Not listed

NTP: Not listed

ACGIH: Not listed

OSHA: Not listed

Mexico: Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.  
STOT - single exposure None known  
STOT - repeated exposure None known  
Aspiration hazard: No information available  
Symptoms / effects, both acute and delayed: No information available  
Endocrine Disruptor Information: No information available  
Other Adverse Effects: The toxicological properties have not been fully investigated.

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## **SECTION 12. ECOLOGICAL INFORMATION**

### Ecotoxicity:

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. Reacts with water so no ecotoxicity data for the substance is available. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

Component: Mercury (II) nitrate, monohydrate

Freshwater Algae: Not listed

Freshwater Fish: 0.17 mg/l (fathead minnow)

Microtox: Not listed

Water Flea: Not listed

Persistence and Degradability:

May persist based on information available.

Bioaccumulation/ Accumulation: No information available.

Mobility:

Is not likely mobile in the environment due its low water solubility. Is not likely mobile in the environment. Will likely be mobile in the environment due to its water solubility.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

### Waste Disposal Methods:

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT

UN-No UN1625

Proper Shipping Name MERCURIC NITRATE

Hazard Class 6.1

Packing Group II

TDG

UN-No UN1625

Proper Shipping Name MERCURIC NITRATE

Hazard Class 6.1

Packing Group II

IATA

UN-No UN1625

Proper Shipping Name MERCURIC NITRATE

Hazard Class 6.1

Packing Group II  
IMDG/IMO  
UN-No UN1625  
Proper Shipping Name MERCURIC NITRATE  
Hazard Class 6.1  
Subsidiary Hazard Class P  
Packing Group II

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## SECTION 15. REGULATORY INFORMATION

Component: Mercury (II) nitrate, monohydrate

TSCA: -

DSL: -

NDSL: -

EINECS: -

ELINCS: -

NLP:

PICCS: X

ENCS: -

AICS: X

IECSC: X

KECL: -

U.S. Federal Regulations:

TSCA 12(b) Not applicable

SARA 313

Component: Mercury (II) nitrate, monohydrate

CAS-No: 7783-34-8

Weight: >95 %

SARA 313 - Threshold Values: 1.0 %

CWA (Clean Water Act)

Component: Mercury (II) nitrate, monohydrate

CWA - Hazardous Substances: -

CWA - Reportable Quantities: -

CWA - Toxic Pollutants CWA - Priority Pollutants: -

Clean Air Act

Component: Mercury (II) nitrate, monohydrate

HAPS Data: X

Class 1 Ozone Depletors

Class 2 Ozone Depletors: -

RCLA

Component: Mercury (II) nitrate, monohydrate

Hazardous Substances RQs: 10 lb

CERCLA EHS RQs: -

California Proposition 65

Component: Mercury (II) nitrate, monohydrate

CAS-No: 7783-34-8

California Prop. 65: Developmental

Prop 65 NSRL: -

Category: Developmental

U.S. State Right-to-Know Regulations

Component: Mercury (II) nitrate, monohydrate

Massachusetts: -

New Jersey: X

Pennsylvania: X  
Illinois: X  
Rhode Island: -  
U.S. Department of Transportation:  
Reportable Quantity (RQ): N  
DOT Marine Pollutant N  
DOT Severe Marine Pollutant N  
U.S. Department of Homeland Security  
This product does not contain any DHS chemicals.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.