

## Mercury (II) Nitrate Monohydrate

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Mercury (II) Nitrate Monohydrate

**Synonyms/Generic Names:** None

**SDS Number:** 450.00

**Product Use:** For Educational Use Only

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Contact:** Ward's Science  
5100 West Henrietta Rd.  
PO Box 92912-9012  
Rochester, NY 14692  
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**OSHA Hazards:** Target Organ Effect, Highly toxic by inhalation, Highly toxic by ingestion, Highly toxic by skin absorption

**Target Organs:** Kidney, Gastrointestinal tract, Nerves, Blood

**Signal Word:** Danger

**Pictograms:**



**GHS Classification:**

Acute toxicity, Oral	Category 2
Acute toxicity, Inhalation	Category 2
Acute toxicity, Dermal	Category 1
Specific target organ toxicity - repeated exposure	Category 2
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

## GHS Label Elements, including precautionary statements:

### Hazard Statements:

H300 + H310	Fatal if swallowed or in contact with skin.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

### Precautionary Statements:

P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing.
P284	Wear respiratory protection.
P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.
P310	Immediately call a POISON CENTER or doctor/ physician.
P501	Dispose of contents/ container to an approved waste disposal plant.

### Potential Health Effects

<b>Eyes</b>	Causes eye irritation.
<b>Inhalation</b>	May be fatal if inhaled. May cause respiratory tract irritation
<b>Skin</b>	May be fatal if absorbed through skin. May cause skin irritation.
<b>Ingestion</b>	May be fatal if swallowed.

### NFPA Ratings

<b>Health</b>	3
<b>Flammability</b>	0
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

### HMIS Ratings

<b>Health</b>	3
<b>Fire</b>	0
<b>Reactivity</b>	0
<b>Personal</b>	J

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Mercuric Nitrate Monohydrate	100	7783-34-8	233-153-3	HgN <sub>2</sub> O <sub>6</sub> · H <sub>2</sub> O	342.62 g/mol

## 4. FIRST-AID MEASURES

<b>Eyes</b>	In case of eye contact, rinse with plenty of water and seek medical attention immediately.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
<b>Skin</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable (and unsuitable) extinguishing media</b>	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (nitrogen oxides, mercury/mercury oxides) under fire conditions. (See also Stability and Reactivity section).
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## 6. ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Pick up and arrange disposal without creating dust. Sweep up and place in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Mercuric Nitrate Monohydrate	0.1 mg/m <sup>3</sup>	CEIL	OSHA
	0.025 mg/m <sup>3</sup>	TLV	ACGIH
	0.1 mg/m <sup>3</sup>	CEIL	OSHA
	0.05 mg/m <sup>3</sup>	REL	NIOSH
	0.1 mg/m <sup>3</sup>	CEIL	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, apron or lab coat.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance (physical state, color, etc.)	White to light yellow, deliquescent crystals.
Odor	Not Available
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	79°C (174.2°F)
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Density	4.3 (Water = 1)
Solubility (ies)	Easily soluble in cold water. Soluble in acetone.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

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## 10. STABILITY AND REACTIVITY

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<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Moisture.
<b>Incompatible Materials</b>	Not Available
<b>Hazardous Decomposition Products</b>	Nitrogen oxides, mercury/mercury oxides.

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## 11. TOXICOLOGICAL INFORMATION

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### Acute Toxicity

<b>Skin</b>	LD50 – rat – 75 mg/kg
<b>Eyes</b>	Not Available
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	LD50 – rat – 26 mg/kg

### Carcinogenicity

<b>IARC</b>	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Mercury nitrate monohydrate).
<b>ACGIH</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Irritation, redness, itchiness.
<b>Eyes</b>	Irritation, redness, watering eyes, itchiness.
<b>Respiratory</b>	Irritation, coughing, wheezing, headache.
<b>Ingestion</b>	Irritation, nausea, vomiting, diarrhea, headache.

<b>Chronic Toxicity</b>	The substance is toxic to kidneys, lungs, the nervous system, mucous membranes.
<b>Teratogenicity</b>	Excreted in maternal milk in animal.
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	May cause damage to organs through prolonged or repeated exposure.
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

<b>Aquatic Vertebrate</b>	Not Available
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Very toxic to aquatic life with long lasting effects

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## 13. DISPOSAL CONSIDERATIONS

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<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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## 14. TRANSPORTATION INFORMATION

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US DOT	UN1625, Mercuric nitrate, 6.1, pg II
TDG	UN1625, MERCURIC NITRATE, 6.1, pg II
IMDG	UN1625, MERCURIC NITRATE, 6.1, pg II
Marine Pollutant	No
IATA/ICAO	UN1625, Mercuric nitrate, 6.1, pg II

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## 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Listed: Mercuric Nitrate
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Mercuric Nitrate
SARA 312	Mercuric Nitrate
SARA 313	Listed: Mercuric Nitrate
WHMIS Canada	CLASS C: Oxidizing material. CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

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## 16. OTHER INFORMATION

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Revision	Date
Revision 1	01/09/2013

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