Material Safety Data Sheet
Mercury (II) Nitrate Monohydrate

ACC# 13831

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Mercury (II) Nitrate Monohydrate  
**Catalog Numbers:** S80076, M168 100, M168 500, M168-100,  
M168-500, M168100, M168500, S80076-1, S800761  
**Synonyms:** Nitric acid mercury salt monohydrate; Mercuric nitrate monohydrate  
**Company Identification:**  
Fisher Scientific  
1 Reagent Lane  
Fairlawn, NJ 07410  
**For information, call:** 201-796-7100  
**Emergency Number:** 201-796-7100  
**For CHEMTREX assistance, call:** 800-424-9300  
**For International CHEMTREX assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7783-34-8</td>
<td>Mercury (II) nitrate monohydrate</td>
<td>100.0</td>
<td>unlisted</td>
</tr>
</tbody>
</table>

**Hazard Symbols:** T+  
**Risk Phrases:** 26/27/28 33

Section 3 - Hazards Identification
EMERGENCY OVERVIEW


**Potential Health Effects**

**Eye:** Contact may cause severe eye irritation and possible eye damage.

**Skin:** Causes skin burns. May be absorbed through the skin in harmful amounts.

**Ingestion:** May be fatal if swallowed. Poison by ingestion. Causes gastrointestinal tract burns. May cause kidney damage. May cause methemoglobinemia, cyanosis, convulsions, and death. Methemoglobinemia is characterized by dizziness, drowsiness, headache, breath shortness, cyanosis with Bluish skin, rapid heart rate and chocolate-brown colored blood. May cause adverse nervous system effects and possible damage. The effects may be delayed.

**Inhalation:** May cause methemoglobinemia, cyanosis, convulsions, tachycardia, dyspnea, and death. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. May cause effects similar to those described for ingestion.

**Chronic:** Not available.

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**Section 4 - First Aid Measures**

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately.

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Destroy contaminated shoes.

**Ingestion:** Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Treat symptomatically and supportively.

**Antidote:** The use of Dimercaprol or BAL (British Anti-Lewisite) as a chelating agent should be determined by qualified medical personnel.

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**Section 5 - Firefighting Measures**

**General Information:** Wear appropriate protective clothing to prevent...
contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Oxidizer. Greatly increases the burning rate of combustible materials.

**Extinguishing Media:** For small fires, use water spray, dry chemical, carbon dioxide or chemical foam. In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

**Autoignition Temperature:** Not available.

**Flash Point:** Not available. (estimated) Health: ; Flammability: ; Reactivity: Explosion Limits, Lower: Not available. Upper: Not available.

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions.

### Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Do not ingest or inhale. Store protected from light. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local, explosion-proof ventilation to keep airborne levels to acceptable levels.

#### Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury (II) nitrate monohydrate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Mercury (II) nitrate monohydrate: No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**

**Eyes:** 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:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.
**Respirators:** Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

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### Section 9 - Physical and Chemical Properties

**Physical State:** Solid  
**Appearance:** white to pale yellow  
**Odor:** odorless  
**pH:** Not applicable.  
**Vapor Pressure:** Not applicable.  
**Vapor Density:** Not available.  
**Evaporation Rate:** Not available.  
**Viscosity:** Not applicable.  
**Boiling Point:** Not available.  
**Freezing/Melting Point:** 174 deg F  
**Decomposition Temperature:** Not available.  
**Solubility:** Soluble in water.  
**Specific Gravity/Density:** 4.3  
**Molecular Formula:** Hg(NO3)2.H2O  
**Molecular Weight:**

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### Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** High temperatures, incompatible materials, light.  
**Incompatibilities with Other Materials:** Reducing agents, cyanides, thiocyanates, isothiocyanates, hypophosphites. May discolor on exposure to light.  
**Hazardous Decomposition Products:** Nitrogen oxides, mercury/mercury oxides.  
**Hazardous Polymerization:** Has not been reported.

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### Section 11 - Toxicological Information

**RTECS#:**  
CAS# 7783-34-8 unlisted.  
LD50/LC50:  
Not available.  

**Carcinogenicity:**  
CAS# 7783-34-8:  
ACGIH: as Hg: A4—not classifiable as a human carcinogen (listed as MERCURY).  
IARC: Group 3 carcinogen (listed as MERCURY, ARYL AND INORGANIC COMPOUNDS).  
Epidemiology: No information available.  
Teratogenicity: No information available.  
Reproductive Effects: No information available.
**Neurotoxicity:** No information available.

**Mutagenicity:** Please refer to RTCES# OV7415000 for specific information.

**Other Studies:** None.

### Section 12 - Ecological Information

**Ecotoxicity:** No information available.

**Environmental Fate:** No information reported.

**Physical/Chemical:** No information available.

**Other:** None.

### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

**RCRA D-Series Maximum Concentration of Contaminants:** None listed.

**RCRA D-Series Chronic Toxicity Reference Levels:** None listed.

**RCRA F-Series:** None listed.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

### Section 14 - Transport Information

<table>
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<tr>
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<th>US DOT</th>
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**Section 15 - Regulatory Information**

**US FEDERAL**

**TSCA**

CAS# 7783-34-8 is not listed on the TSCA inventory. It is for research and development use only.

**Health & Safety Reporting List**

None of the chemicals are on the Health & Safety Reporting List.

**Chemical Test Rules**
None of the chemicals in this product are under a Chemical Test Rule.

**Section 12b**
None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**
None of the chemicals in this material have a SNUR under TSCA.

**SARA**

**Section 302 (RQ)**
None of the chemicals in this material have an RQ.

**Section 302 (TPQ)**
None of the chemicals in this product have a TPQ.

**SARA Codes**
CAS # 7783-34-8: acute, chronic, flammable.

**Section 313**
This material contains Mercury (II) nitrate monohydrate (listed as MERCURY), 100 %, (CAS# 7783-34-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

**Clean Air Act:**
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

**Clean Water Act:**
None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**
None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**
CAS# 7783-34-8 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

**WARNING:** This product contains Mercury (II) nitrate monohydrate, listed as 'MERCURY', a chemical known to the state of California to cause birth defects or other reproductive harm. California No Significant Risk Level:
None of the chemicals in this product are listed.

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**
T+

**Risk Phrases:**
R 26/27/28 Very toxic by inhalation, in contact with skin and if swallowed. R 33 Danger of cumulative effects.

**Safety Phrases:**
S 1/2 Keep locked up and out of reach of children. S 13 Keep away from food, drink and animal feeding stuffs. S 45 In case of accident if you feel unwell, seek medical advice immediately (show the label where possible). S 28A After contact with skin, wash immediately with plenty of water.

**WGK (Water Danger/Protection)**
CAS# 7783-34-8: No information available.

**Canada**

None of the chemicals in this product are listed on the DSL/NDSL list. This product has a WHMIS classification of C, D1A, D2A.

CAS# 7783-34-8 is not listed on Canada's Ingredient Disclosure List.

**Exposure Limits**
CAS# 7783-34-8 (listed as mercury): OEL-ARAB Republic of Egypt: TWA
0.0
5 mg/m³ OEL-AUSTRALIA:TWA 0.1 mg/m³; Skin OEL-BELGIUM:TWA 0.1 mg/m³; Skin
OEL-FINLAND:TWA 0.05 mg/m³ OEL-FRANCE:TWA 0.05 mg/m³; Skin (vapor)
OEL-FRANCE:TWA 0.1 mg/m³; Skin OEL-HUNGARY:TWA 0.02
mg/m³; STEL 0.04
mg/m³ OEL-Poland:TWA 0.05 mg/m³ OEL-SWEDEN:TWA 0.05 mg/m³
(vapor)
OEL-SWITZERLAND:TWA 0.005 ppm (0.05 mg/m³); Skin (vapor)
OEL-SWITZERLAND
ND:TWA 0.01 mg/m³; Skin OEL-TURKEY:TWA 0.1 mg/m³; Skin OEL IN
BULGARIA,
COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND,
SINGAPORE, VIETNAM check ACGIH TLV OEL-AUSTRALIA:TWA 0.05
mg(Hg)/m³; Skin JANUARY 1993 OEL-BELGIUM:TWA 0.05 mg(Hg)/m³; Skin JANUARY 1993
OEL-Czech
HOSLOVAKIA:TWA 0.05 mg(Hg)/m³; STEL 0.15 mg(Hg)/m³
OEL-DENMARK:TWA 0.0
5 mg(Hg)/m³ JANUARY 1993 OEL-FINLAND:TWA 0.05 mg(Hg)/m³
JANUARY 1993
3 OEL-FRANCE:TWA 0.05 mg(Hg)/m³ JANUARY 1993
OEL-GERMANY:TWA 0.01 ppm (0.1 mg(Hg)/m³) JANUARY 1993 OEL-HUNGARY:TWA 0.02
mg(Hg)/m³; STEL
0.04 mg(Hg)/m³ JANUARY 1993 OEL-JAPAN:TWA 0.05 mg(Hg)/m³
JANUARY 1993
OEL-THE NETHERLANDS:TWA 0.05 mg(Hg)/m³; STEL 0.15 mg(Hg)/m³
OEL-THE
PHILIPPINES:TWA 0.05 mg(Hg)/m³ JANUARY 1993 OEL-POLAND:TWA
0.01 mg(Hg)
m³ JANUARY 1993 OEL-RUSSIA:TWA 0.05 mg(Hg)

Section 16 - Additional Information

MSDS Creation Date: 9/29/1995
Revision #3 Date: 9/02/1997
The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Fisher be liable
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