Material Safety Data Sheet
Mercuric Nitrate, Monohydrate, ACS

Section 1 - Chemical Product and Company Identification

MSDS Name:
Mercuric Nitrate, Monohydrate, ACS

Catalog Numbers:
LC16645

Synonyms:
Nitric acid, mercury (2+) salt, monohydrate, mercury (II) nitrate monohydrate

Company Identification:
LabChem Inc
200 William Pitt Way
Pittsburgh, PA 15238

Company Phone Number:
(412) 826-5230

Emergency Phone Number:
(800) 424-9300

CHEMTREC Phone Number:
(800) 424-9300

Section 2 – Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name:</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>7783-34-8</td>
<td>Mercuric nitrate monohydrate</td>
<td>100</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification

Emergency Overview

Appearance: white to pale yellow solid


Target Organs: Kidneys, central nervous system, blood forming organs.

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:
Causes gastrointestinal tract burns. May cause kidney damage. May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, and death. Can cause nervous system damage. Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), rapid heart rate and chocolate-brown colored blood. Effects may be delayed.
Inhalation:
May cause methemoglobinemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), convulsions, tachycardia, dyspnea (labored breathing), 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:
May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. May cause reproductive and fetal effects.

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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 eyelids. Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed.

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

**Ingestion:**
Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

**Inhalation:**
Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased, apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:**
For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood.

**Antidote:**
The use of Dimercaprol or BAL (British Anti-Lewisite) as a chelating agent should be determined by qualified medical personnel. Methylene blue, alone or in combination with oxygen, is indicated as a treatment in nitrite induced methemoglobinemia.

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**Section 5 - Fire Fighting Measures**

**General Information:**
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. 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. Some oxidizers may react explosively with hydrocarbons (fuel). Containers may explode when heated.
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Extinguishing Media:
Use water only! Cool containers with flooding quantities of water until well after fire is out. Do NOT use dry chemicals, CO2, Halon or foams.

Autoignition Temperature:
Not available.

Flash Point:
Not available.

NFPA Rating:
Not available.

Explosion Limits:
Lower: n/a  Upper: n/a

Section 6 - Accidental Release Measures

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

Spills/Leaks:
Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, and then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill.

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. Store protected from light.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. 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</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercuric nitrate monohydrate</td>
<td>0.025 mg/m3 TWA (as Hg) (listed under Mercury inorganic compounds). Potential significant contribution to overall</td>
<td>Listed under Mercury compounds: 0.05 mg/m3 TWA (vapor, except organoalkyls, as Hg). 10 mg/m3 IDLH (as Hg.)</td>
<td>none listed</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Exposure by the cutaneous route</th>
<th>Except organo(alkyl) compounds</th>
</tr>
</thead>
</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 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.

Section 9 - Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Color</td>
<td>White to pale yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Odor of nitric acid</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing/Melting Point</td>
<td>77 - 79°C</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Specific Gravity/Density</td>
<td>4.3</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>Hg(NO3)2.H2O</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>324.60</td>
</tr>
</tbody>
</table>

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal temperatures and pressures. May discolor on exposure to light. Deliquescent (tending to absorb atmospheric water vapor and become liquid).

Conditions to Avoid:
High temperatures, light.

Incompatibilities with Other Materials:
Reducing agents, cyanides, thiocyanates, isothiocyanates, hypophosphites.

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: Not listed by ACGIH, IARC, NTP, or California Proposition 65.

Epidemiology:
No information available.

Teratogenicity:
No information available.

Reproductive:
No information available.

Mutagenicity:
No information available.

Neurotoxicity:
No information available.

Section 12 - Ecological Information

Other: Destroys plant lice.

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT
Shipping Name: Mercuric nitrate
Hazard Class: 6.1
UN Number: UN1625
Packing Group: PGII

Section 15 - Regulatory Information

US Federal
TSCA:
CAS# 7783-34-8 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

SARA Reportable Quantities (RQ):
There is no RQ for the monohydrate. RQ for the anhydrous form is 10 lb. (4.54 kg) final RQ
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CERCLA/SARA Section 313:
This material contains Mercury (II) nitrate monohydrate (listed as Mercury compounds), 100%, (CAS# 7783-34-8) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

OSHA - Highly Hazardous:
None of the chemicals in this product are considered highly hazardous by OSHA.

US State
State Right to Know:
CAS# 7783-34-8 can be found on the following state right to know lists: California, (listed as Mercury compounds), New Jersey, (listed as Mercury inorganic compounds), Pennsylvania, (listed as Mercury compounds).

California Regulations: WARNING: This product contains Mercury (II) nitrate monohydrate, listed as `Mercury compounds', a chemical known to the state of California to cause developmental reproductive toxicity.

European/International Regulations
Canadian DSL/NDSL:
CAS# 7783-34-8 is not listed on the Canadian DSL. The anhydrous form is listed.

Canada Ingredient Disclosure List:
CAS# 7783-34-8 (listed as Mercury compounds) is listed on the Canadian Ingredient Disclosure List.

Section 16 - Other Information

MSDS Creation Date: August 22, 2007
Revision Date: None

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