Mercuric Nitrate, Monohydrate, ACS
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of issue: 04/06/2015  Revision date: 11/28/2017  Supersedes: 11/28/2017  Version: 1.2

SECTION 1: Identification

1.1. Identification
Product form : Substance
Substance name : Mercuric Nitrate, Monohydrate, ACS
CAS-No. : 7783-34-8
Product code : LC16645
Formula : Hg(NO3)2·H2O

1.2. Recommended use and restrictions on use
Use of the substance/mixture : For laboratory and manufacturing use only.
Recommended use : Laboratory chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier
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 - www.labchem.com

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

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Acute toxicity (oral)  H300  Fatal if swallowed
Acute toxicity (dermal)  H310  Fatal in contact with skin
Acute toxicity (inhalation)  H330  Fatal if inhaled
Specific target organ toxicity (repeated exposure)  H373  May cause damage to organs (kidneys, central nervous system) through prolonged or repeated exposure
Hazardous to the aquatic environment - Acute Hazard Category 1  H400  Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 1  H410  Very toxic to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS-US labeling
Hazard pictograms (GHS-US) :

Signal word (GHS-US) : Danger
Hazard statements (GHS-US) : 
- H300+H310+H330 - Fatal if swallowed, in contact with skin or if inhaled
- H373 - May cause damage to organs (kidneys, central nervous system) through prolonged or repeated exposure
- H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) : 
- P260 - Do not breathe dust
- P262 - Do not get in eyes, on skin, or on clothing
- P264 - Wash exposed skin thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
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2.3. Other hazards which do not result in classification
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. Substances
Substance type : Mono-constituent

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercuric Nitrate, Monohydrate, ACS (Main constituent)</td>
<td>(CAS-No.) 7783-34-8</td>
<td>100</td>
<td>Acute Tox. 2 (Oral), H300</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 2 (Dermal), H310</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute Tox. 2 (Inhalation), H330</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>STOT RE 2, H373</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Acute 1, H400</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aquatic Chronic 1, H410</td>
</tr>
</tbody>
</table>

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures
Not applicable

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. Immediately call a poison center or doctor/physician.
First-aid measures after skin contact : Immediately call a poison center or doctor/physician. Gently wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.
First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Fatal if swallowed. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)
Symptoms/effects : Causes damage to organs (kidneys, central nervous system).
Symptoms/effects after inhalation : Fatal if inhaled.
Symptoms/effects after skin contact : Fatal in contact with skin.
Symptoms/effects after eye contact : Mild eye irritation.
Chronic symptoms : Central nervous system depression. Decreased renal function.

4.3. Immediate medical attention and special treatment, if necessary
Hospitalize at once.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media
Unsuitable extinguishing media : Do not use a heavy water stream.
5.2. Specific hazards arising from the chemical
No additional information available

5.3. Special protective equipment and precautions for fire-fighters
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
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. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

6.4. Reference to other sections
See Heading 8. Exposure controls and personal protection.

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. Do not get in eyes, on skin, or on clothing. Avoid breathing dust.
Hygiene measures: Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling.

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. combustible materials.
Incompatible materials: Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th></th>
<th>ACGIH</th>
<th>ACGIH TWA (mg/m³)</th>
<th>0.025 mg/m³ as Hg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>0.1 mg/m³ as Hg</td>
</tr>
<tr>
<td></td>
<td>IDLH</td>
<td>US IDLH (mg/m³)</td>
<td>10 mg/m³ as Hg</td>
</tr>
<tr>
<td></td>
<td>NIOSH</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>0.05 mg/m³ Vapor, as Hg</td>
</tr>
<tr>
<td></td>
<td>NIOSH</td>
<td>US-NIOSH chemical category</td>
<td>Potential for dermal absorption</td>
</tr>
</tbody>
</table>

8.2. Appropriate engineering controls
Appropriate engineering controls: Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Material should be handled in a laboratory hood whenever possible.
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### 8.3 Individual protection measures/Personal protective equipment

**Personal protective equipment:**
- Face shield. Gas mask. Gas mask with filter type Z at conc. in air >. Protective clothing. Safety glasses.

**Hand protection:**
- Wear protective gloves

**Eye protection:**
- Chemical goggles or safety glasses

**Skin and body protection:**
- Chemical resistant apron. In case of dust production: dustproof clothing

**Respiratory protection:**
- Gas 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

<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</td>
</tr>
<tr>
<td>Odor</td>
<td>characteristic</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>70 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Non flammable.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapor density at 20 °C</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific gravity / density</td>
<td>4.3 g/cm³</td>
</tr>
<tr>
<td>Molecular mass</td>
<td>342.62 g/mol</td>
</tr>
<tr>
<td>Solubility</td>
<td>Decomposes on exposure to water. Soluble in acids. Insoluble in organic solvents.</td>
</tr>
<tr>
<td>Log Pow</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 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
Strong reducing agents. Combustible materials.

10.6. Hazardous decomposition products
Mercury. Nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Likely routes of exposure : Inhalation; Skin and eye contact

<table>
<thead>
<tr>
<th>Mercuric Nitrate, Monohydrate, ACS (7783-34-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 oral rat</td>
</tr>
<tr>
<td>LD50 dermal rat</td>
</tr>
<tr>
<td>ATE US (oral)</td>
</tr>
<tr>
<td>ATE US (dermal)</td>
</tr>
<tr>
<td>ATE US (gases)</td>
</tr>
<tr>
<td>ATE US (vapors)</td>
</tr>
<tr>
<td>ATE US (dust, mist)</td>
</tr>
</tbody>
</table>

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 : May cause damage to organs (kidneys, central nervous system) through prolonged or repeated exposure.
Specific target organ toxicity – repeated exposure : Not classified
Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms
- Based on available data, the classification criteria are not met. Fatal if swallowed. Fatal in contact with skin.
- Fatal if inhaled.
- Fatal in contact with skin.
- Mild eye irritation.
- Central nervous system depression. Decreased renal function.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - water : Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>Mercuric Nitrate, Monohydrate, ACS (7783-34-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability : Non degradable in the soil.</td>
</tr>
</tbody>
</table>
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12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>Mercuric Nitrate, Monohydrate, ACS (7783-34-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioaccumulative potential</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal 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. Hazardous waste due to toxicity.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT

Transport document description : UN1625 Mercuric nitrate, 6.1, II

UN-No.(DOT) : UN1625
Proper Shipping Name (DOT) : Mercuric nitrate
Packing group (DOT) : II - Medium Danger
Hazard labels (DOT) : 6.1 - Poison inhalation hazard

Dangerous for the environment : Yes
Marine pollutant : Yes

DOT Packaging Non Bulk (49 CFR 173.xxx) : 212
DOT Packaging Bulk (49 CFR 173.xxx) : 242
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| DOT Special Provisions (49 CFR 172.102) |  
|----------------------------------------|---|
| IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).  
| IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.  
| IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner.  
| N73 - Packaging consisting of outer wooden or fiberboard boxes with inner glass, metal or other strong containers; metal or fiber drums; kegs or barrels; or strong metal cans are authorized and need not conform to the requirements of part 178 of this subchapter.  
| T3 - 2.65 178.274(d)(2) Normal............. 178.275(d)(2)  
| TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.  

| DOT Packaging Exceptions (49 CFR 173.xxx) |  
|-------------------------------------------|---|
| 153                                      |  

| DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) |  
|-----------------------------------------------------------------|---|
| 25 kg                                                            |  

| DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) |  
|-----------------------------------------------------------------|---|
| 100 kg                                                          |  

| DOT Vessel Stowage Location |  
|----------------------------|---|
| A - The material may be stowed “on deck” or “under deck” on a cargo vessel and on a passenger vessel.  
| Other information |  
| No supplementary information available.  

**SECTION 15: Regulatory information**

**15.1. US Federal regulations**

| Mercuric Nitrate, Monohydrate, ACS (7783-34-8) |  
|-----------------------------------------------|---|
| Not listed on the United States TSCA (Toxic Substances Control Act) inventory |  

| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard | 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 except for:

| Mercuric Nitrate, Monohydrate, ACS | CAS-No. 7783-34-8 | 100% |  

**15.2. International regulations**

**CANADA**

| Mercuric Nitrate, Monohydrate, ACS (7783-34-8) |  
|-----------------------------------------------|---|
| Not listed on the Canadian DSL (Domestic Substances List) |  

**EU-Regulations**

No additional information available

**National regulations**

No additional information available
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15.3. US State regulations

<table>
<thead>
<tr>
<th>Mercuric Nitrate, Monohydrate, ACS (7783-34-8)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. - California - Proposition 65 - Carcinogens List</td>
<td>No</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Developmental Toxicity</td>
<td>Yes</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Female</td>
<td>No</td>
</tr>
<tr>
<td>U.S. - California - Proposition 65 - Reproductive Toxicity - Male</td>
<td>No</td>
</tr>
</tbody>
</table>

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

SECTION 16: Other information

Revision date: 11/28/2017
Other information: None.

Full text of H-phrases: see section 16:

<table>
<thead>
<tr>
<th>H300</th>
<th>Fatal if swallowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>H310</td>
<td>Fatal in contact with skin</td>
</tr>
<tr>
<td>H330</td>
<td>Fatal if inhaled</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
<tr>
<td>H410</td>
<td>Very toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

NFPA health hazard: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
NFPA fire hazard: 0 - Materials that will not burn under typical dire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
NFPA reactivity: 3 - Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction but that require a strong initiating source or must be heated under confinement before initiation.

Hazard Rating
Health: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
* - Chronic (long-term) health effects may result from repeated overexposure
Flammability: 0 Minimal Hazard - Materials that will not burn
Physical: 3 Serious Hazard - Materials that may form explosive mixtures with water and are capable of detonation or explosive reaction in the presence of a strong initiating source. Materials may polymerize, decompose, self-react, or undergo other chemical change at normal temperature and pressure with moderate risk of explosion

Personal protection: J
J - Splash goggles, Gloves, Synthetic apron, Dust & vapor respirator

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