



# Fisher Scientific

## Part of Thermo Fisher Scientific

### SAFETY DATA SHEET

Creation Date 23-Sep-2014

Revision Date 23-Sep-2014

Revision Number 1

#### 1. Identification

**Product Name** Mercurous Nitrate Dihydrate (Certified ACS)

**Cat No. :** M169-500; M169-500LC

**Synonyms** nitric acid mercury salt; Mercurous nitrate

**Recommended Use** Laboratory chemicals.

**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**Company**

Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number**

CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

#### 2. Hazard(s) 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 2 |
| Acute Inhalation Toxicity - Dusts and Mists          | Category 2 |
| Specific target organ toxicity - (repeated exposure) | Category 2 |

**Label Elements**

**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**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Do not eat, drink or smoke when using this product  
Do not get in eyes, on skin, or on clothing  
Do not breathe dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear respiratory protection  
Keep/Store away from clothing/ other combustible materials  
Take any precaution to avoid mixing with combustibles

**Response**

IF exposed or concerned: Get medical attention/advice

**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

**Other hazards**

WARNING! This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

### 3. Composition / information on ingredients

| Component                   | CAS-No     | Weight % |
|-----------------------------|------------|----------|
| Mercurous nitrate dihydrate | 7782-86-7  | >95      |
| Mercurous nitrate           | 10415-75-5 | 0        |

### 4. First-aid measures

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.  
Immediate medical attention is required.

**Skin Contact**

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

**Inhalation**

Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

**Ingestion**

Do not induce vomiting. Call a physician or Poison Control Center immediately.

**Most important symptoms/effects** No information available.  
**Notes to Physician** Treat symptomatically

## 5. Fire-fighting 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** No information available

**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.

### Hazardous Combustion Products

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

### 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.

### NFPA

**Health**  
4

**Flammability**  
1

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions** Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

**Environmental Precautions** Should not be released into the environment.

**Methods for Containment and Clean Up** Wear self-contained breathing apparatus and protective suit. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

## 7. Handling and storage

**Handling** Use only under a chemical fume hood. Wear personal protective equipment. Avoid dust formation. Do not breathe vapors/dust. Do not get in eyes, on skin, or on clothing. Do not ingest.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component                   | ACGIH TLV                            | OSHA PEL                                 | NIOSH IDLH                                                                                  |
|-----------------------------|--------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------------|
| Mercurous nitrate dihydrate | TWA: 0.025 mg/m <sup>3</sup><br>Skin | (Vacated) Ceiling: 0.1 mg/m <sup>3</sup> | IDLH: 10 mg/m <sup>3</sup><br>TWA: 0.05 mg/m <sup>3</sup><br>Ceiling: 0.1 mg/m <sup>3</sup> |
| Mercurous nitrate           | TWA: 0.025 mg/m <sup>3</sup><br>Skin | (Vacated) Ceiling: 0.1 mg/m <sup>3</sup> | IDLH: 10 mg/m <sup>3</sup><br>TWA: 0.05 mg/m <sup>3</sup><br>Ceiling: 0.1 mg/m <sup>3</sup> |

| Component                   | Quebec                               | Mexico OEL (TWA)            | Ontario TWAEV                        |
|-----------------------------|--------------------------------------|-----------------------------|--------------------------------------|
| Mercurous nitrate dihydrate | TWA: 0.025 mg/m <sup>3</sup><br>Skin | TWA: 0.05 mg/m <sup>3</sup> | TWA: 0.025 mg/m <sup>3</sup><br>Skin |
| Mercurous nitrate           | TWA: 0.025 mg/m <sup>3</sup><br>Skin | TWA: 0.05 mg/m <sup>3</sup> | TWA: 0.025 mg/m <sup>3</sup><br>Skin |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

|                                      |                                                                                                                                                                                                                                                   |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Engineering Measures</b>          | 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.                                                            |
| <b>Personal Protective Equipment</b> |                                                                                                                                                                                                                                                   |
| <b>Eye/face Protection</b>           | 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.                                                                       |
| <b>Skin and body protection</b>      | Wear appropriate protective gloves and clothing to prevent skin exposure.                                                                                                                                                                         |
| <b>Respiratory Protection</b>        | 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. |
| <b>Hygiene Measures</b>              | Handle in accordance with good industrial hygiene and safety practice.                                                                                                                                                                            |

## 9. Physical and chemical properties

|                                               |                                                                    |
|-----------------------------------------------|--------------------------------------------------------------------|
| <b>Physical State</b>                         | Powder Solid                                                       |
| <b>Appearance</b>                             | Off-white                                                          |
| <b>Odor</b>                                   | Odorless                                                           |
| <b>Odor Threshold</b>                         | No information available                                           |
| <b>pH</b>                                     | No information available                                           |
| <b>Melting Point/Range</b>                    | 70 °C / 158 °F                                                     |
| <b>Boiling Point/Range</b>                    | No information available                                           |
| <b>Flash Point</b>                            | No information available                                           |
| <b>Evaporation Rate</b>                       | No information available                                           |
| <b>Flammability (solid,gas)</b>               | No information available                                           |
| <b>Flammability or explosive limits</b>       |                                                                    |
| <b>Upper</b>                                  | No data available                                                  |
| <b>Lower</b>                                  | No data available                                                  |
| <b>Vapor Pressure</b>                         | No information available                                           |
| <b>Vapor Density</b>                          | No information available                                           |
| <b>Relative Density</b>                       | 4.78                                                               |
| <b>Solubility</b>                             | No information available                                           |
| <b>Partition coefficient; n-octanol/water</b> | No data available                                                  |
| <b>Autoignition Temperature</b>               | No information available                                           |
| <b>Decomposition temperature</b>              | > 70°C                                                             |
| <b>Viscosity</b>                              | No information available                                           |
| <b>Molecular Formula</b>                      | Hg <sub>2</sub> N <sub>2</sub> O <sub>6</sub> . 2 H <sub>2</sub> O |
| <b>Molecular Weight</b>                       | 561.22                                                             |

## 10. Stability and reactivity

|                                         |                                                                              |
|-----------------------------------------|------------------------------------------------------------------------------|
| <b>Reactive Hazard</b>                  | None known, based on information available                                   |
| <b>Stability</b>                        | Light sensitive.                                                             |
| <b>Conditions to Avoid</b>              | Avoid dust formation. Incompatible products. Excess heat. Exposure to light. |
| <b>Incompatible Materials</b>           | Alcohols, Strong reducing agents                                             |
| <b>Hazardous Decomposition Products</b> | Nitrogen oxides (NO <sub>x</sub> )                                           |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.                                     |
| <b>Hazardous Reactions</b>              | None under normal processing.                                                |

## 11. Toxicological information

### Acute Toxicity

**Product Information** No acute toxicity information is available for this product

**Component Information**

**Toxicologically Synergistic** No information available

**Products**

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

**Irritation** No information available

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component                   | CAS-No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-----------------------------|------------|------------|------------|------------|------------|------------|
| Mercurous nitrate dihydrate | 7782-86-7  | Not listed | Not listed | Not listed | Not listed | Not listed |
| Mercurous nitrate           | 10415-75-5 | Not listed | Not listed | Not listed | Not listed | 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. See actual entry in RTECS for complete information.

## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Do not empty into drains.

**Persistence and Degradability** No information available

**Bioaccumulation/ Accumulation** No information available.

**Mobility** No information available.

## 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.

## 14. Transport information

### DOT

|                             |                   |
|-----------------------------|-------------------|
| <b>UN-No</b>                | UN1627            |
| <b>Proper Shipping Name</b> | MERCUROUS NITRATE |
| <b>Hazard Class</b>         | 6.1               |
| <b>Packing Group</b>        | II                |

**TDG**

UN-No UN1627  
 Proper Shipping Name MERCUROUS NITRATE  
 Hazard Class 6.1  
 Packing Group II

**IATA**

UN-No UN1627  
 Proper Shipping Name MERCUROUS NITRATE  
 Hazard Class 6.1  
 Packing Group II

**IMDG/IMO**

UN-No UN1627  
 Proper Shipping Name MERCUROUS NITRATE  
 Hazard Class 6.1  
 Packing Group II

**15. Regulatory information****International Inventories**

| Component                   | TSCA | DSL | NDSL | EINECS    | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|-----------------------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Mercurous nitrate dihydrate | -    | -   | -    | -         | -      |     | X     | -    | -    | -     | -    |
| Mercurous nitrate           | X    | X   | -    | 233-886-4 | -      |     | X     | X    | X    | X     | X    |

**Legend:**

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations****TSCA 12(b)**

Not applicable

**SARA 313**

| Component                   | CAS-No     | Weight % | SARA 313 - Threshold Values % |
|-----------------------------|------------|----------|-------------------------------|
| Mercurous nitrate dihydrate | 7782-86-7  | >95      | 1.0                           |
| Mercurous nitrate           | 10415-75-5 | 0        | 1.0                           |

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard Yes  
 Chronic Health Hazard Yes  
 Fire Hazard Yes  
 Sudden Release of Pressure Hazard No  
 Reactive Hazard No

**Clean Water Act**

| Component                   | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|-----------------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Mercurous nitrate dihydrate | -                          | -                           | X                      | -                         |
| Mercurous nitrate           | X                          | 10 lb                       | X                      | -                         |

**Clean Air Act**

| Component                   | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|-----------------------------|-----------|-------------------------|-------------------------|
| Mercurous nitrate dihydrate | X         |                         | -                       |

|                   |   |  |   |
|-------------------|---|--|---|
| Mercurous nitrate | X |  | - |
|-------------------|---|--|---|

**OSHA** Occupational Safety and Health Administration  
Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component                   | Hazardous Substances RQs | CERCLA EHS RQs |
|-----------------------------|--------------------------|----------------|
| Mercurous nitrate dihydrate | 10 lb                    | -              |
| Mercurous nitrate           | 10 lb                    | -              |

**California Proposition 65** This product contains the following Proposition 65 chemicals:

| Component                   | CAS-No     | California Prop. 65 | Prop 65 NSRL | Category      |
|-----------------------------|------------|---------------------|--------------|---------------|
| Mercurous nitrate dihydrate | 7782-86-7  | Developmental       | -            | Developmental |
| Mercurous nitrate           | 10415-75-5 | Developmental       | -            | Developmental |

**State Right-to-Know**

| Component                   | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------------------|---------------|------------|--------------|----------|--------------|
| Mercurous nitrate dihydrate | X             | X          | X            | X        | -            |
| Mercurous nitrate           | X             | X          | X            | X        | -            |

**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.

**Other International Regulations**

**Mexico - Grade** No information available

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

**WHMIS Hazard Class** D1A Very toxic materials



## 16. Other information

**Prepared By**

Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

**Creation Date**

23-Sep-2014

**Revision Date**

23-Sep-2014

**Print Date**

23-Sep-2014

**Revision Summary**

This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of SDS**