

## SAFETY DATA SHEET

Version 6.2  
Revision Date 09/30/2020  
Print Date 01/15/2022**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Mercury(II) nitrate monohydrate

Product Number : 83381  
Brand : SIGALD  
Index-No. : 080-002-00-6  
CAS-No. : 7783-34-8

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Synthesis of substances

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

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 2), H300  
Acute toxicity, Inhalation (Category 2), H330  
Acute toxicity, Dermal (Category 1), H310  
Specific target organ toxicity - repeated exposure (Category 2), H373  
Short-term (acute) aquatic hazard (Category 1), H400  
Long-term (chronic) aquatic hazard (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



|   |   |
|---|---|
| Signal word                                       | Danger  |
| Hazard statement(s)<br>H300 + H310 + H330<br>H373 | Fatal if swallowed, in contact with skin or if inhaled.<br>May cause damage to organs through prolonged or repeated exposure. |
| H410  | Very toxic to aquatic life with long lasting effects.   |
| Precautionary statement(s)                        |   |
| P260  | Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  |
| P262  | Do not get in eyes, on skin, or on clothing.  |
| P264  | Wash skin thoroughly after handling.  |
| P270  | Do not eat, drink or smoke when using this product.   |
| P271  | Use only outdoors or in a well-ventilated area.   |
| P273  | Avoid release to the environment.   |
| P280  | Wear protective gloves/ protective clothing.  |
| P284  | Wear respiratory protection.  |
| P301 + P310 + P330                                | IF SWALLOWED: Immediately call a POISON CENTER/ doctor.<br>Rinse mouth.   |
| P302 + P350 + P310                                | IF ON SKIN: Gently wash with plenty of soap and water.<br>Immediately call a POISON CENTER or doctor/ physician.              |
| P304 + P340 + P310                                | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.          |
| P314  | Get medical advice/ attention if you feel unwell.   |
| P362  | Take off contaminated clothing and wash before reuse.   |
| P391  | Collect spillage.   |
| P403 + P233                                       | Store in a well-ventilated place. Keep container tightly closed.  |
| P405  | Store locked up.  |
| P501  | Dispose of contents/ container to an approved waste disposal plant.   |

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |   |
|------------------|---|
| Synonyms         | : Mercuric nitrate                                  |
| Formula          | : $\text{HgN}_2\text{O}_6 \cdot \text{H}_2\text{O}$ |
| Molecular weight | : 342.62 g/mol                                      |
| CAS-No.          | : 7783-34-8   |
| EC-No.           | : 233-152-3   |
| Index-No.        | : 080-002-00-6                                      |

| Component                            | Classification   | Concentration |
|--------------------------------------|--|---------------|
| <b>Mercury dinitrate monohydrate</b> |  |               |
|                                      | Acute Tox. 2; Acute Tox. 1; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H300, H330, H310, H373, H400, H410<br>Concentration limits:<br>>= 0.1 %: STOT RE 2, H373; | <= 100 %      |

|  |                                 |  |
|--|---------------------------------|--|
|  | M-Factor - Aquatic Acute:<br>10 |  |
|--|---------------------------------|--|

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Consult a physician. Show this material safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO<sub>x</sub>), Mercury/mercury oxides.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

hygroscopic Light sensitive.

Storage class (TRGS 510): 6.1B: Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

| Component                     | CAS-No.   | Value  | Control parameters      | Basis                                   |
|-------------------------------|-----------|--|-------------------------|---|
| Mercury dinitrate monohydrate | 7783-34-8 | TWA  | 0.025 mg/m <sup>3</sup> | USA. ACGIH Threshold Limit Values (TLV) |
|                               | Remarks   | Not classifiable as a human carcinogen<br>Danger of cutaneous absorption |                         |   |
|                               |           | TWA  | 0.05 mg/m <sup>3</sup>  | USA. NIOSH Recommended Exposure Limits  |
|                               |           | Potential for dermal absorption  |                         |   |

|  |  |                                 |                         |   |
|--|--|---------------------------------|-------------------------|---|
|  |  | C                               | 0.1 mg/m <sup>3</sup>   | USA. NIOSH Recommended Exposure Limits  |
|  |  | Potential for dermal absorption |                         |   |
|  |  | PEL                             | 0.025 mg/m <sup>3</sup> | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|  |  | Skin                            |                         |   |
|  |  | C                               | 0.1 mg/m <sup>3</sup>   | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|  |  | Skin                            |                         |   |

## 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |   |  |
|---|--|
| a) Appearance                                   | Form: crystalline<br>Color: white          |
| b) Odor   | No data available                          |
| c) Odor Threshold                               | No data available                          |
| d) pH   | No data available                          |
| e) Melting point/freezing point                 | Melting point/range: 79 °C (174 °F) - lit. |
| f) Initial boiling point and boiling range      | No data available                          |
| g) Flash point                                  | No data available                          |
| h) Evaporation rate                             | No data available                          |
| i) Flammability (solid, gas)                    | No data available                          |
| j) Upper/lower flammability or explosive limits | No data available                          |
| k) Vapor pressure                               | No data available                          |
| l) Vapor density                                | No data available                          |
| m) Relative density                             | 4.300 g/cm <sup>3</sup>                    |
| n) Water solubility                             | No data available                          |
| o) Partition coefficient: n-octanol/water       | No data available                          |
| p) Autoignition temperature                     | No data available                          |
| q) Decomposition temperature                    | No data available                          |
| r) Viscosity                                    | No data available                          |
| s) Explosive properties                         | No data available                          |
| t) Oxidizing properties                         | No data available                          |

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Avoid moisture.

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NO<sub>x</sub>), Mercury/mercury oxides.

Other decomposition products - No data available

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

No data available

#### Skin corrosion/irritation

No data available

#### Serious eye damage/eye irritation

No data available

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

No data available

**Additional Information**

RTECS: OW8225000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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**SECTION 12: Ecological information****12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

Biodegradability

Result: - According to the results of tests of biodegradability this product is not readily biodegradable.

Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator



equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information**

**DOT (US)**

UN number: 1625 Class: 6.1 Packing group: II

Proper shipping name: Mercuric nitrate

Reportable Quantity (RQ): 10 lbs

- Marine pollutant: yes Poison Inhalation Hazard: No

**IMDG**

UN number: 1625 Class: 6.1 Packing group: II EMS-No: F-A, S-A

Proper shipping name: MERCURIC NITRATE

Marine pollutant : yes

Marine pollutant : yes

**IATA**

UN number: 1625 Class: 6.1 Packing group: II

Proper shipping name: Mercuric nitrate

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**SECTION 15: Regulatory information**

**SARA 302 Components**

This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

|                               | CAS-No.   | Revision Date |
|-------------------------------|-----------|---------------|
| Mercury dinitrate monohydrate | 7783-34-8 | 1993-02-16    |

**SARA 311/312 Hazards**

Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

|                               | CAS-No.   | Revision Date |
|-------------------------------|-----------|---------------|
| Mercury dinitrate monohydrate | 7783-34-8 | 1993-02-16    |

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## SECTION 16: Other information

### Further information

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