

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Mercury(II) nitrate monohydrate for analysis

Revision date: 22.09.2023

Product code: 25255

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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Mercury(II) nitrate monohydrate for analysis

CAS No: 7783-34-8  
Index No: 080-002-00-6  
EC No: 233-152-3

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

#### Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

#### Uses advised against

Do not use for private purposes (household).

### 1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
E-mail: info@analytichem.de  
Contact person: Abteilung Produktsicherheit  
E-mail: produktsicherheit@analytichem.de  
Internet: www.analytichem.de  
Responsible Department: Abteilung Produktsicherheit  
Telefax: 0203/5194-290  
Telephone: 0203/5194-107/117

### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

### Further Information

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Regulation (EC) No 1272/2008

Acute Tox. 1; H310  
Acute Tox. 2; H330  
Acute Tox. 2; H300  
STOT RE 2; H373  
Aquatic Acute 1; H400  
Aquatic Chronic 1; H410

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### Regulation (EC) No 1272/2008

Signal word: Danger

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**Pictograms:**



**Hazard statements**

- H300+H310+H330 Fatal if swallowed, in contact with skin or if inhaled.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P302+P352 IF ON SKIN: Wash with plenty of soap and water.
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P308 IF exposed or concerned:
- P310 Immediately call a POISON CENTER/doctor.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

- Sum formula: Hg(NO<sub>3</sub>)<sub>2</sub> \* H<sub>2</sub>O
- Molecular weight: 342,62 g/mol

**Hazardous components**

CAS No	Chemical name	Quantity
	EC No      Index No      REACH No	
	Classification (Regulation (EC) No 1272/2008)	
7783-34-8	mercury nitrate monohydrate	100 %
	233-152-3      080-002-00-6	
	Acute Tox. 1, Acute Tox. 2, Acute Tox. 2, STOT RE 2, Aquatic Acute 1, Aquatic Chronic 1; H310 H330 H300 H373 H400 H410	

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7783-34-8	233-152-3	mercury nitrate monohydrate	100 %
		inhalation: ATE = 0,5 mg/l (vapours); inhalation: ATE = 0,05 mg/l (dusts or mists); dermal: ATE = 5 mg/kg; oral: ATE = 5 mg/kg STOT RE 2; H373: >= 0,1 - 100	

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

Self-protection of the first aider

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#### After inhalation

Provide fresh air.  
If breathing is irregular or stopped, administer artificial respiration.  
Call a physician immediately.

#### After contact with skin

Wash immediately with: Water  
Take off immediately all contaminated clothing and wash it before reuse.  
Call a physician immediately.

#### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
Protect uninjured eye.

#### After ingestion

Rinse mouth immediately and drink plenty of water.  
Water, to which activated charcoal may be added  
Call a physician immediately.

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

Irritant, Vomiting, Cardiac arrhythmias  
Gastrointestinal complaints, Abdominal pain  
Blood pressure drop, Circulatory collapse, Methaemoglobinaemia

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

No data available

## SECTION 5: Firefighting measures

### **5.1. Extinguishing media**

#### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

#### **Unsuitable extinguishing media**

no restriction

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

Non-combustible solids  
Hazardous combustion products  
In case of fire may be liberated:  
mercury and its compounds  
Nitrogen oxides (NO<sub>x</sub>)

### **5.3. Advice for firefighters**

Do not inhale explosion and combustion gases.  
Avoid contact with skin, eyes and clothes.  
In case of fire: Wear self-contained breathing apparatus.

#### **Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.  
Move undamaged containers from immediate hazard area if it can be done safely.  
Use water spray jet to protect personnel and to cool endangered containers.

## SECTION 6: Accidental release measures

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

#### **General advice**

Avoid dust formation. Do not breathe dust.

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#### For non-emergency personnel

- Provide adequate ventilation.
- Use personal protection equipment.
- Avoid contact with skin, eyes and clothes.
- Remove persons to safety.
- Emergency procedures
- Do not breathe dust/fume/gas/mist/vapours/spray.

#### For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.

#### 6.3. Methods and material for containment and cleaning up

##### For containment

- Cover drains.
- Prevent spread over a wide area (e.g. by containment or oil barriers).
- Collect in closed and suitable containers for disposal.
- Take up carefully when dry. Take up dust-free and set down dust-free.

##### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

##### Other information

- Provide adequate ventilation.
- Do not breathe dust/fume/gas/mist/vapours/spray.
- Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### 6.4. Reference to other sections

- Safe handling: see section 7
- Personal protection equipment: see section 8
- Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Advice on safe handling

- Avoid exposure - obtain special instructions before use.
- Read label before use. Handle and open container with care.
- Avoid dust formation. Do not breathe dust.
- When using do not eat, drink, smoke, sniff. Keep container tightly closed.
- Use personal protection equipment. Use extractor hood (laboratory).
- Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

#### Advice on protection against fire and explosion

Usual measures for fire prevention.

#### Advice on general occupational hygiene

- Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities
- Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

#### Further information on handling

- Draw up and observe skin protection programme.
- Wash hands and face before breaks and after work and take a shower if necessary.
- Take off immediately all contaminated clothing and wash it before reuse.
- If handled uncovered, arrangements with local exhaust ventilation have to be used.

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

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#### Requirements for storage rooms and vessels

Store in a well-ventilated place. Keep container tightly closed.  
Store in a place accessible by authorized persons only.  
Protect against: Light

#### Further information on storage conditions

Store in a dry place.  
storage temperature +5°C - +30°C

#### 7.3. Specific end use(s)

Laboratory chemicals

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

#### 8.2. Exposure controls

##### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.  
If handled uncovered, arrangements with local exhaust ventilation have to be used.  
Avoid dust formation. Do not breathe dust.

##### Individual protection measures, such as personal protective equipment

##### Eye/face protection

goggles  
Wear eye/face protection.

##### Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Recommended glove articles: KCL 741 Dermatrill® L  
Thickness of the glove material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 741 Dermatrill® L  
Thickness of the glove material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet (>, <) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

##### Skin protection

Wear suitable protective clothing.  
Take off immediately all contaminated clothing.  
Wash hands before breaks and after work.

##### Respiratory protection

Respiratory protection necessary at: dust formation  
Filtering device with filter or ventilator filtering device of type: Hg-P3

##### Environmental exposure controls

Do not allow to enter into surface water or drains.

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**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Physical state:	solid
Colour:	whitish
Odour:	like: Nitric acid
Odour threshold:	No data available
Melting point/freezing point:	79 °C
Boiling point or initial boiling point and boiling range:	No data available
Flammability:	No data available
Lower explosion limits:	No data available
Upper explosion limits:	No data available
Flash point:	not applicable
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH-Value:	No data available
Viscosity / kinematic:	No data available
Water solubility:	Hydrolysis
Solubility in other solvents	
No data available	
Dissolution rate:	No data available
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density (at 20 °C):	4,39 g/cm <sup>3</sup>
Relative density:	No data available
Bulk density:	~1200 kg/m <sup>3</sup>
Relative vapour density:	No data available
Particle characteristics:	No data available

**9.2. Other information**

**Information with regard to physical hazard classes**

Explosive properties	
No data available	
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	No data available
Gas:	No data available
Oxidizing properties	
No data available	

**Other safety characteristics**

Evaporation rate:	No data available
Solvent separation test:	No data available
Solvent content:	No data available
Solid content:	100%
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available
No data available:	
Viscosity / dynamic:	No data available
Flow time:	No data available

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**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No data available

**10.2. Chemical stability**

Protect against: Light

**10.3. Possibility of hazardous reactions**

Danger of explosion:

Acetylene, Ethanol

Ammonia, Phosphine

White/yellow phosphor, SULPHUR

Sulphuric acid, concentrated

Exothermic reaction with:

aldehydes, aromatic hydrocarbons

Ketone

Violent reaction with: Reducing agent, strong

**10.4. Conditions to avoid**

Light

Heat

**10.5. Incompatible materials**

No data available

**10.6. Hazardous decomposition products**

In case of fire may be liberated:

SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Toxicokinetics, metabolism and distribution**

Avoid exposure - obtain special instructions before use.

**Acute toxicity**

Fatal in contact with skin.

Fatal if swallowed.

Fatal if inhaled.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7783-34-8	mercury nitrate monohydrate				
	oral	ATE 5 mg/kg			
	dermal	ATE 5 mg/kg			
	inhalation vapour	ATE 0,5 mg/l			
	inhalation dust/mist	ATE 0,05 mg/l			

**Irritation and corrosivity**

Based on available data, the classification criteria are not met.

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#### Sensitising effects

Based on available data, the classification criteria are not met.  
May cause sensitisation especially in sensitive humans.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

#### STOT-single exposure

Based on available data, the classification criteria are not met.

#### STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (mercury nitrate monohydrate)

#### Aspiration hazard

Based on available data, the classification criteria are not met.

#### Information on likely routes of exposure

No data available

#### Specific effects in experiment on an animal

No data available

#### Additional information on tests

No data available

#### Practical experience

No data available

#### 11.2. Information on other hazards

##### Endocrine disrupting properties

No data available

##### Other information

No data available

#### Further information

Irritant, Vomiting, Cardiac arrhythmias  
Gastrointestinal complaints, Abdominal pain  
Blood pressure drop, Circulatory collapse, Methaemoglobinaemia

### SECTION 12: Ecological information

#### 12.1. Toxicity

No data available

#### 12.2. Persistence and degradability

The methods for determining the biological degradability 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

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

#### 12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

#### 12.7. Other adverse effects

Discharge into the environment must be avoided.

#### Further information

Do not allow to enter into surface water or drains.

### SECTION 13: Disposal considerations



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**13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Do not allow to enter into surface water or drains.

Do not mix with other wastes.

Send to a physico-chemical treatment facility under observation of official regulations.

**Contaminated packaging**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	UN 1625
<b>14.2. UN proper shipping name:</b>	MERCURIC NITRATE
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	II
Hazard label:	6.1
Classification code:	T5
Limited quantity:	500 g
Excepted quantity:	E4
Transport category:	2
Hazard No:	60
Tunnel restriction code:	D/E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 1625
<b>14.2. UN proper shipping name:</b>	MERCURIC NITRATE
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	II
Hazard label:	6.1
Classification code:	T5
Special Provisions:	802
Limited quantity:	500 g
Excepted quantity:	E4

**Marine transport (IMDG)**

<b>14.1. UN number or ID number:</b>	UN 1625
<b>14.2. UN proper shipping name:</b>	MERCURIC NITRATE
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	II
Hazard label:	6.1
Marine pollutant:	P
Special Provisions:	-
Limited quantity:	500 g
Excepted quantity:	E4
EmS:	F-A, S-A

**Air transport (ICAO-TI/IATA-DGR)**

<b>14.1. UN number or ID number:</b>	UN 1625
<b>14.2. UN proper shipping name:</b>	MERCURIC NITRATE
<b>14.3. Transport hazard class(es):</b>	6.1
<b>14.4. Packing group:</b>	II
Hazard label:	6.1
Limited quantity Passenger:	1 kg

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Passenger LQ:	Y644	
Excepted quantity:	E4	
IATA-packing instructions - Passenger:		669
IATA-max. quantity - Passenger:		25 kg
IATA-packing instructions - Cargo:		676
IATA-max. quantity - Cargo:		100 kg

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	Yes
Danger releasing substance:	mercury nitrate monohydrate

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### EU regulatory information

Information according to 2012/18/EU (SEVESO III):	H1 ACUTE TOXIC
Additional information:	E1

##### Additional information

SVHC substance.

##### National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.
Water hazard class (D):	3 - highly hazardous to water

### SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s): 12.

#### Abbreviations and acronyms

Acute Tox: Acute toxicity  
 STOT RE: Specific target organ toxicity - repeated exposure  
 Aquatic Acute: Acute aquatic hazard  
 Aquatic Chronic: Chronic aquatic hazard

#### Relevant H and EUH statements (number and full text)

H300	Fatal if swallowed.
H300+H310+H330	Fatal if swallowed, in contact with skin or if inhaled.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

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The receiver of our product is singularly responsible for adhering to existing laws and regulations.