



## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

### 1 Identification

- **Product identifier**
- **Trade name:** mercuric nitrate 0.1 N
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Energy Chemical Co. Semnan  
No. 60, Golfam St, Africa Ave.  
TEHRAN 1915673641  
IRAN
- **Information department:** Product safety department.
- **Emergency telephone number:** During normal opening times: +98 21 2205 2178

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.  
Acute Tox. 4 H312 Harmful in contact with skin.  
Acute Tox. 4 H332 Harmful if inhaled.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07



GHS08

- **Signal word** Warning
- **Hazard-determining components of labeling:**  
Quecksilber(II)-nitrat-Monohydrat
- **Hazard statements**  
Harmful if swallowed, in contact with skin or if inhaled.  
May cause damage to organs through prolonged or repeated exposure.
- **Precautionary statements**  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.

(Contd. on page 2)



## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

**Trade name: mercuric nitrate 0.1 N**

(Contd. of page 1)

Use only outdoors or in a well-ventilated area.  
Wear protective gloves / protective clothing.  
If swallowed: Call a poison center/doctor if you feel unwell.  
If on skin: Wash with plenty of water.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
Get medical advice/attention if you feel unwell.  
Specific treatment (see on this label).  
Rinse mouth.  
Take off contaminated clothing and wash it before reuse.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:**· **NFPA ratings (scale 0 - 4)**· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = 1
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

· **Other hazards**· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**· **Description:** Mixture of the substances listed below with nonhazardous additions.· **Dangerous components:**

7783-34-8	Quecksilber(II)-nitrat-Monohydrat	<5.0%
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### 4 First-aid measures

· **Description of first aid measures**· **General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

· **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Generally the product does not irritate the skin.· **After eye contact:** Rinse opened eye for several minutes under running water.

(Contd. on page 3)



## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

**Trade name: mercuric nitrate 0.1 N**

(Contd. of page 2)

- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

**PAC-1:**

7783-34-8	Quecksilber(II)-nitrat-Monohydrat	0.13 mg/m <sup>3</sup>
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**PAC-2:**

7783-34-8	Quecksilber(II)-nitrat-Monohydrat	0.17 mg/m <sup>3</sup>
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**PAC-3:**

7783-34-8	Quecksilber(II)-nitrat-Monohydrat	48 mg/m <sup>3</sup>
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### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.

(Contd. on page 4)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

Trade name: mercuric nitrate 0.1 N

(Contd. of page 3)

- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

### 7783-34-8 Quecksilber(II)-nitrat-Monohydrat

PEL	Long-term value: 0.1 mg/m <sup>3</sup> as Hg; see OSHA standard interpretation memo
REL	Long-term value: 0.05* mg/m <sup>3</sup> Ceiling limit value: 0.1 mg/m <sup>3</sup> as Hg; *Vapor; Skin
TLV	Long-term value: 0.025 mg/m <sup>3</sup> as Hg; Skin; BEI

· **Ingredients with biological limit values:**

### 7783-34-8 Quecksilber(II)-nitrat-Monohydrat

BEI	35 µg/L Medium: urine Time: prior to shift Parameter: Total inorganic mercury (background)
	15 µg/L Medium: blood Time: end of shift at end of workweek Parameter: Total inorganic mercury (background)

· **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

(Contd. on page 5)



## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

**Trade name: mercuric nitrate 0.1 N**

(Contd. of page 4)

**· Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**· Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**· Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**· Eye protection:**

Tightly sealed goggles

### 9 Physical and chemical properties

**· Information on basic physical and chemical properties****· General Information****· Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Clear
<b>Odor:</b>	Characteristic
<b>Odor threshold:</b>	Not determined.

**· pH-value:** Not determined.

**· Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)

**· Flash point:** Not applicable.

**· Flammability (solid, gaseous):** Not applicable.

**· Decomposition temperature:** Not determined.

**· Auto igniting:** Product is not selfigniting.

**· Danger of explosion:** Product does not present an explosion hazard.

(Contd. on page 6)



**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

**Trade name: mercuric nitrate 0.1 N**

(Contd. of page 5)

· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure at 20 °C (68 °F):</b>	23 hPa (17.3 mm Hg)
· <b>Density at 20 °C (68 °F):</b>	>1.06647 g/cm <sup>3</sup> (>8.89969 lbs/gal)
· <b>Bulk density:</b>	>1,004 kg/m <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Fully miscible.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>Water:</b>	>50.0 %
<b>VOC content:</b>	0.00 % >0.0 g/l / >0.00 lb/gl
· <b>Solids content:</b>	<50.0 %
· <b>Other information</b>	No further relevant information available.

**10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>ATE (Acute Toxicity Estimate)</b>		
Oral	LD50	>520 mg/kg (rat)

(Contd. on page 7)



**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

**Trade name: mercuric nitrate 0.1 N**

(Contd. of page 6)

Dermal	LD50	>1,500 mg/kg (rat)
Inhalative	LC50/4 h	>10 mg/l

**7783-34-8 Quecksilber(II)-nitrat-Monohydrat**

Oral	LD50	26 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** No irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

7783-34-8	Quecksilber(II)-nitrat-Monohydrat	3
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**12 Ecological information**

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazardous class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

US

(Contd. on page 8)



**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025


Trade name: mercuric nitrate 0.1 N

(Contd. of page 7)

**13 Disposal considerations**

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

**14 Transport information**

· <b>UN-Number</b> · <b>DOT, IMDG, IATA</b>	UN3082
· <b>UN proper shipping name</b> · <b>DOT</b> · <b>IMDG</b> · <b>IATA</b>	Environmentally hazardous substances, liquid, n.o.s. (Mercuric nitrate) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MERCURIC NITRATE), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (MERCURIC NITRATE)
· <b>Transport hazard class(es)</b> · <b>DOT, IMDG, IATA</b>	
	
· <b>Class</b> · <b>Label</b>	9 Miscellaneous dangerous substances and articles 9
· <b>Packing group</b> · <b>DOT, IMDG, IATA</b>	III
· <b>Environmental hazards:</b> · <b>Marine pollutant:</b> · <b>Special marking (IATA):</b>	Product contains environmentally hazardous substances: Quecksilber(II)-nitrat-Monohydrat Yes (DOT) Symbol (fish and tree) Symbol (fish and tree)
· <b>Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Segregation groups</b>	Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F Heavy metals and their salts (including their organometallic compounds)

(Contd. on page 9)





## Safety Data Sheet

acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

**Trade name: mercuric nitrate 0.1 N**

(Contd. of page 8)

· <b>Stowage Category</b>	A
· <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: No limit On cargo aircraft only: No limit
· <b>Remarks:</b>	Special marking with the symbol (fish and tree).
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (MERCURIC NITRATE), 9, III

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

**· Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

**· Section 313 (Specific toxic chemical listings):**

7783-34-8 | Quecksilber(II)-nitrat-Monohydrat

**· TSCA (Toxic Substances Control Act):**

7732-18-5 | water, distilled, conductivity or of similar purity

**· TSCA new (21st Century Act) (Substances not listed)**

7783-34-8 | Quecksilber(II)-nitrat-Monohydrat

**· Proposition 65****· Chemicals known to cause cancer:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**· Chemicals known to cause developmental toxicity:**

7783-34-8 | Quecksilber(II)-nitrat-Monohydrat

(Contd. on page 10)

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

**Trade name: mercuric nitrate 0.1 N**

(Contd. of page 9)

**· Carcinogenic categories****· EPA (Environmental Protection Agency)**

7783-34-8 Quecksilber(II)-nitrat-Monohydrat

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**· TLV (Threshold Limit Value established by ACGIH)**

7783-34-8 Quecksilber(II)-nitrat-Monohydrat

A4

**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

**· GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**· Hazard pictograms**

GHS07 GHS08

**· Signal word** Warning**· Hazard-determining components of labeling:**

Quecksilber(II)-nitrat-Monohydrat

**· Hazard statements**

Harmful if swallowed, in contact with skin or if inhaled.

May cause damage to organs through prolonged or repeated exposure.

**· Precautionary statements**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves / protective clothing.

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

Rinse mouth.

Take off contaminated clothing and wash it before reuse.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**· Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**· Department issuing SDS:** Product safety department.

(Contd. on page 11)

US

**Safety Data Sheet**  
acc. to OSHA HCS

Printing date 02/18/2025

Reviewed on 02/18/2025

**Trade name: mercuric nitrate 0.1 N**

(Contd. of page 10)

**· Contact:**

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**\*WWW.ENERGYSEM.NAN.COM\*****· Date of preparation / last revision** 02/18/2025 / -**· Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**ACGIH: American Conference of Governmental Industrial Hygienists**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**BEI: Biological Exposure Limit**Acute Tox. 4: Acute toxicity – Category 4**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2*

-US-