

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Iron(III) nitrate nonahydrate for analysis, ACS

Revision date: 21.07.2023

Product code: 15251

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Iron(III) nitrate nonahydrate for analysis, ACS

CAS No: 7782-61-8

EC No: 233-899-5

**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

Telefax: 0203/5194-290

E-mail: info@analytichem.de

Contact person: Abteilung Produktsicherheit

Telephone: 0203/5194-107/117

E-mail: produktsicherheit@analytichem.de

Internet: www.analytichem.de

Responsible Department: Abteilung Produktsicherheit

**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**

Ox. Sol. 3; H272

Skin Irrit. 2; H315

Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008**

Signal word: Warning

Pictograms:

**Hazard statements**

H272

May intensify fire; oxidiser.

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H315 Causes skin irritation.  
H319 Causes serious eye irritation.

**Precautionary statements**

P210  
P220 Keep away from clothing and other combustible materials.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.

**2.3. Other hazards**

No data available

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

**3.1. Substances**

Sum formula:  $\text{Fe}(\text{NO}_3)_3 \cdot 9 \text{H}_2\text{O}$   
Molecular weight: 403,95 g/mol

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7782-61-8	Iron(III) nitrate nonahydrate			100 %
	233-899-5			
	Ox. Sol. 3, Skin Irrit. 2, Eye Irrit. 2; H272 H315 H319			

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		
7782-61-8	233-899-5	Iron(III) nitrate nonahydrate	100 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg		

**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**

No data available

**After inhalation**

Provide fresh air.

**After contact with skin**

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

**After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.  
Remove contact lenses, if present and easy to do. Continue rinsing.

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#### After ingestion

Rinse mouth immediately and drink plenty of water.  
Call a physician immediately.

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

Irritant  
Gastrointestinal complaints  
Vomiting  
Circulatory collapse  
Liver and kidney damage  
Cardiac arrhythmias  
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  
Oxidizing  
Hazardous combustion products  
In case of fire may be liberated:  
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

Suppress gases/vapours/mists with water spray jet.  
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

#### 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

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#### 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

- Handle and open container with care.
- Provide adequate ventilation.
- Avoid contact with skin, eyes and clothes.
- Avoid dust formation. Do not breathe dust.

#### Advice on protection against fire and explosion

- Keep away from combustible material.

#### Advice on general occupational hygiene

- Take off contaminated clothing.
- Wash hands before breaks and after work.
- When using do not eat or drink.

#### Further information on handling

- Take off contaminated clothing and wash it before reuse.
- Wash hands before breaks and after work.

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

#### Requirements for storage rooms and vessels

- Keep in a cool place.
- Keep container tightly closed and dry.

#### Further information on storage conditions

- storage temperature +5°C - +30°C
- Protect against: Light

### 7.3. Specific end use(s)

- Laboratory chemicals

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

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**DNEL/DMEL values**

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
7782-61-8	Iron(III) nitrate nonahydrate		
Worker DNEL, long-term	inhalation	systemic	12 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	17 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	3 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	8,6 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	1,2 mg/kg bw/day

**PNEC values**

CAS No	Substance	
Environmental compartment	Value	
7782-61-8	Iron(III) nitrate nonahydrate	
Freshwater	0,024 mg/l	
Freshwater (intermittent releases)	0,24 mg/l	
Marine water	0,002 mg/l	
Freshwater sediment	0,2 mg/kg	
Marine sediment	0,02 mg/kg	
Micro-organisms in sewage treatment plants (STP)	500 mg/l	
Soil	0,026 mg/kg	

**8.2. Exposure controls**

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

**Eye/face protection**

Suitable eye protection: goggles.

**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

Trade name/designation KCL 741 Dermatril® L

Suitable material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Suitable 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.

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#### Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.  
Filtering device with filter or ventilator filtering device of type: P2

#### Environmental exposure controls

Do not allow to enter into surface water or drains.

## SECTION 9: Physical and chemical properties

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

Physical state:	solid	
Colour:	light violet / light blue	
Odour:	like: Nitric acid	
Odour threshold:	No data available	
Melting point/freezing point:		47,2 °C
Boiling point or initial boiling point and boiling range:		125 °C
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		X
Auto-ignition temperature:		No data available
Decomposition temperature:		100/125 °C
pH-Value (at 20 °C):		~1,3 (100 g/l)
Viscosity / kinematic:		No data available
Water solubility: (at 20 °C)		1500 g/L
Solubility in other solvents		not determined
Dissolution rate:		No data available
Partition coefficient n-octanol/water:		not determined
Dispersion stability:		No data available
Vapour pressure:		No data available
Vapour pressure:		No data available
Density:		1,684 g/cm <sup>3</sup>
Relative density:		No data available
Bulk density:		~900 kg/m <sup>3</sup>
Relative vapour density:		not determined
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:	not determined
Gas:	not applicable
Oxidizing properties	
The product is: oxidising, Oxidising.	

#### Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	No data available
Solid content:	100%

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Sublimation point: No data available  
 Softening point: No data available  
 Pour point: No data available  
 Viscosity / dynamic: No data available  
 Flow time: No data available

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

Possibility of hazardous reactions. oxidising, Oxidising.

**10.2. Chemical stability**

Protect against:  
 Light  
 Humidity

**10.3. Possibility of hazardous reactions**

Oxidising agent  
 Metal powder  
 Combustible substance

**10.4. Conditions to avoid**

Humidity  
 Light  
 Heat

**10.5. Incompatible materials**

No data available

**10.6. Hazardous decomposition products**

No data available

**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**

No data available

**Acute toxicity**

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

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7782-61-8	Iron(III) nitrate nonahydrate				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2002)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2004)	OECD Guideline 402

**Irritation and corrosivity**

Causes skin irritation.  
 Causes serious eye irritation.

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#### Sensitising effects

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

#### 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

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

#### 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  
Gastrointestinal complaints  
Vomiting  
Circulatory collapse  
Liver and kidney damage  
Cardiac arrhythmias  
Methaemoglobinaemia

### SECTION 12: Ecological information

#### 12.1. Toxicity

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



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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7782-61-8	Iron(III) nitrate nonahydrate					
	Acute fish toxicity	LC50 mg/l	1010	96 h	Pimephales promelas	Scott, G. & Crunkilton, R. (2000). Acute The study was not carried out to any spe
	Acute algae toxicity	ErC50	130 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (2002) OECD Guideline 201
	Acute crustacea toxicity	EC50	611 mg/l	48 h	Daphnia magna	Scott, G. & Crunkilton, R. (2000). Acute The study was not carried out to any spe
	Fish toxicity	NOEC	1,6 mg/l	146 d	Salvelinus namaycush	McGurk, M., Landry, F., Tang, A. & Hanks No specific guideline followed. However,
	Crustacea toxicity	NOEC	8,1 mg/l	21 d	Daphnia magna	Study report (2002) OECD Guideline 211

**12.2. Persistence and degradability**

No data available

**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**

No data available

**Further information**

Avoid release to the environment.

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

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

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

Do not allow to enter into surface water or drains.

**Contaminated packaging**

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

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

**SECTION 14: Transport information**

**Land transport (ADR/RID)**

**14.1. UN number or ID number:**

UN 1466

**14.2. UN proper shipping name:**

FERRIC NITRATE

**14.3. Transport hazard class(es):**

5.1

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**14.4. Packing group:** III  
 Hazard label: 5.1  
 Classification code: O2  
 Limited quantity: 5 kg  
 Excepted quantity: E1  
 Transport category: 3  
 Hazard No: 50  
 Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 1466  
**14.2. UN proper shipping name:** FERRIC NITRATE  
**14.3. Transport hazard class(es):** 5.1  
**14.4. Packing group:** III  
 Hazard label: 5.1  
 Classification code: O2  
 Limited quantity: 5 kg  
 Excepted quantity: E1

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 1466  
**14.2. UN proper shipping name:** FERRIC NITRATE  
**14.3. Transport hazard class(es):** 5.1  
**14.4. Packing group:** III  
 Hazard label: 5.1  
 Special Provisions: -  
 Limited quantity: 5 kg  
 Excepted quantity: E1  
 EmS: F-A, S-Q

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

**14.1. UN number or ID number:** UN 1466  
**14.2. UN proper shipping name:** FERRIC NITRATE  
**14.3. Transport hazard class(es):** 5.1  
**14.4. Packing group:** III  
 Hazard label: 5.1  
 Special Provisions: A803  
 Limited quantity Passenger: 10 kg  
 Passenger LQ: Y546  
 Excepted quantity: E1  
 IATA-packing instructions - Passenger: 559  
 IATA-max. quantity - Passenger: 25 kg  
 IATA-packing instructions - Cargo: 563  
 IATA-max. quantity - Cargo: 100 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Warning: Oxidising substances.

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information**

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

**EU regulatory information**

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Information according to 2012/18/EU  
(SEVESO III):

P8 OXIDISING LIQUIDS AND SOLIDS

#### National regulatory information

Employment restrictions:

Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D):

1 - slightly hazardous to water

#### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

### SECTION 16: Other information

#### Changes

This data sheet contains changes from the previous version in section(s): 9,12.

#### 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

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Ox. Sol: Oxidising solid

Skin Irrit: Skin irritation

Eye Irrit: Eye irritation

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

H272 May intensify fire; oxidiser.

H315 Causes skin irritation.

H319 Causes serious eye irritation.