

Iron(III) nitrate.9aq a.r.

Revision: 21.08.2025

Product code: AC14.00914

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

Iron(III) nitrate.9aq a.r.

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**

Reagents and laboratory chemicals

Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

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

Company name: AnalytiChem Services, Unipessoal, Lda

Street: Rua de Júlio Dinis 676 7º

Place: N-4050-320 Porto

Telephone: +351 226002917

E-mail: info@analytichem.com

Contact person: SDS service department

E-mail: SDS@analytichem.com

Internet: www.analytichem.com

Responsible Department: SDS service department

Supplier or manufacturer details

Company name: AnalytiChem Belgium NV

Street: Industriezone "De Arend" 2

Place: B-8210 Zedelgem

Telephone: +32 50 28 83 20

E-mail: info.be@analytichem.com

Contact person: SDS service department

E-mail: SDS@analytichem.com

Responsible Department: AnalytiChem:

EU-Belgium: AnalytiChem Belgium, Industriezone "De Arend" 2, 8210 Zedelgem, Belgium, +32 50 28 83 20

EU-Germany: AnalytiChem Germany, Stempelstrasse 6, 47167 Duisburg, Germany, +49 203 51 94 – 200

EU-Netherlands: AnalytiChem Netherlands, Communicatieweg 7, 3641 SG Mijdrecht, The Netherlands, +31 297 286848

UK: AnalytiChem UK, Unit 7 Launton Business Center, Murdock Road, Bicester, OX26 4XB, England, +44 1869 355 500

USA: AnalytiChem USA, 227 China Road, Winslow, Maine, 04901, United States, +1 800-244-8378

Canada: AnalytiChem Canada, 21800 Clark Graham Avenue, Baie d'Urfe, H9X 4B6, Canada, +1 514-457-0701

Australia: ORE Research & Exploration Pty Ltd, 37A Hosie Street, Bayswater North, 3153, Australia, +61 3 9729 0333

+44 20 3807 3798 (CHEMTREC)

1.4. Emergency telephone number:**Further Information**

A registration number is not available for this substance as the substance or its use are exempted from

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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.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P220 Keep away from clothing and other combustible materials.

P280 Wear protective gloves/protective clothing and eye protection/face 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

Relevant ingredients

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.

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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.

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 (NOx)

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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****General advice**

- Do not breathe dust.

For non-emergency personnel

- Provide adequate ventilation.
- Use personal protection equipment.
- Avoid contact with skin, eyes and clothes.
- Remove persons to safety.
- Emergency procedures
- Consult an expert
- 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**

- Handle and open container with care.
- Provide adequate ventilation.
- Avoid contact with skin, eyes and clothes.

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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.

Hints on joint storage

Take national regulations into account.

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****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/m³
Worker DNEL, long-term		dermal	systemic	17 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	3 mg/m³
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		

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8.2. Exposure controls**Individual protection measures, such as personal protective equipment****Eye/face protection**

Suitable eye protection: goggles.

Hand protection

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

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).

Skin protection

Wear suitable protective clothing.

Take off immediately all contaminated clothing.

Wash hands before breaks and after work.

The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Filtering device with filter or ventilator filtering device of type: P2

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Thermal hazards

No data available

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

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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/cm³
Relative density:	No data available
Bulk density:	~900 kg/m³
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	
Sustained combustibility:	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
Solvent content:	0%
Solid content:	100%
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:

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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****Toxicokinetics, metabolism and distribution**

No data available

Acute toxicity

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

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

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

Skin corrosion/irritation: Causes skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

Reproductive toxicity: 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.

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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**

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

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.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
7782-61-8	Iron(III) nitrate nonahydrate					
	Acute fish toxicity	LC50 1010 mg/l	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

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12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of UK REACH.

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
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

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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**

Information according to Directive 2012/18/EU (SEVESO III): P8 OXIDISING LIQUIDS AND SOLIDS

Additional information

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

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

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 2,6,7,8,9,11,15.

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Abbreviations and acronyms

Ox. Sol. 3: Oxidising solids, hazard category 3

Skin Irrit. 2: Skin irritation, hazard category 2

Eye Irrit. 2: Eye irritation, hazard category 2

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%

Relevant H and EUH statements (number and full text)

H272 May intensify fire; oxidiser.

H315 Causes skin irritation.

H319 Causes serious eye irritation.