

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l

Revision date: 21.07.2023

Product code: 13803

Page 1 of 11

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

Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l

**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**

This product is a mixture. REACH Registration Number see section 3.

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Met. Corr. 1; H290

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**

H290	May be corrosive to metals.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l

Revision date: 21.07.2023

Product code: 13803

Page 2 of 11

#### Precautionary statements

- 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.
- P390 Absorb spillage to prevent material damage.

#### 2.3. Other hazards

No data available

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Chemical characterization

Mixtures in aqueous solution

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
7664-93-9	sulphuric acid			5 - < 10 %
	231-639-5	016-020-00-8	01-2119458838-20	
	Met. Corr. 1, Skin Corr. 1A, Eye Dam. 1; H290 H314 H318			
7782-63-0	ferrous sulfate heptahydrate			1 - < 5 %
	231-753-5	026-003-01-4	01-2119513203-57	
	Acute Tox. 4, Skin Irrit. 2, Eye Irrit. 2; H302 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		
7664-93-9	231-639-5	sulphuric acid	5 - < 10 %
	oral: LD50 = 2140 mg/kg Skin Corr. 1A; H314: >= 15 - 100 Skin Irrit. 2; H315: >= 5 - < 15 Eye Irrit. 2; H319: >= 5 - < 15		
7782-63-0	231-753-5	ferrous sulfate heptahydrate	1 - < 5 %
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 500 mg/kg Skin Irrit. 2; H315: >= 25 - 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

No data available

##### After inhalation

- Provide fresh air.  
Call a doctor if you feel unwell.

##### After contact with skin

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l

Revision date: 21.07.2023

Product code: 13803

Page 3 of 11

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.

Do NOT induce vomiting. Do not allow a neutralisation agent to be drunk.

Call a physician immediately.

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

Irritant

Risk of serious damage to eyes.

#### 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 liquids

Hazardous combustion products

In case of fire may be liberated:

Sulphur oxides

### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

In case of fire and/or explosion do not breathe fumes.

Avoid contact with skin, eyes and clothes.

#### 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

Corrosive to metals.

#### 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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l

Revision date: 21.07.2023

Product code: 13803

Page 4 of 11

#### **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.

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

##### **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**

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Use personal protection equipment.

Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Do not breathe vapour/aerosol.

##### **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. 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. Avoid: aerosol or mist formation Do not breathe vapour/aerosol.

##### **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.

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

##### **Requirements for storage rooms and vessels**

Corrosive to metals.

Unsuitable container/equipment material: Metal

The product develops hydrogen in an aqueous solution in contact with metals.

##### **Further information on storage conditions**

Keep container tightly closed.

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

Laboratory chemicals

## **SECTION 8: Exposure controls/personal protection**

#### **8.1. Control parameters**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l**

Revision date: 21.07.2023

Product code: 13803

Page 5 of 11

**Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
7664-93-9	Sulphuric acid	-	0.05		TWA (8 h)	

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
7664-93-9	sulphuric acid			
Worker DNEL, long-term		inhalation	local	0,05 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	0,1 mg/m <sup>3</sup>
7782-63-0	ferrous sulfate heptahydrate			
Worker DNEL, long-term		dermal	systemic	2,8 mg/kg bw/day
Consumer DNEL, long-term		dermal	systemic	1,4 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,28 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	20 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
7664-93-9	sulphuric acid	
Freshwater		0,003 mg/l
Marine water		0 mg/l
Freshwater sediment		0,002 mg/kg
Marine sediment		0,002 mg/kg
Micro-organisms in sewage treatment plants (STP)		8,8 mg/l

**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.

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

**Eye/face protection**

goggles  
Wear eye/face protection.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

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

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l

Revision date: 21.07.2023

Product code: 13803

Page 6 of 11

Recommended 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

Recommended 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: aerosol or mist formation

#### 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:	Liquid	
Colour:	light green	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
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:		No data available
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value:		acidic
Viscosity / kinematic:		No data available
Water solubility:		completely miscible
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:		1,074 g/cm <sup>3</sup>
Relative density:		No data available
Bulk density:		No data available
Relative vapour density:		No data available
Particle characteristics:		No data available

### 9.2. Other information

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l

Revision date: 21.07.2023

Product code: 13803

Page 7 of 11

#### 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

Oxidizing

#### Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

0

Solid content:

0

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

#### Further Information

Corrosive to metals.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Corrosive to metals.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

### 10.3. Possibility of hazardous reactions

Alkali (lye)

### 10.4. Conditions to avoid

No data available

### 10.5. Incompatible materials

Metal

The product develops hydrogen in an aqueous solution in contact with metals.

### 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

There are no data available on the preparation/mixture itself.

#### Acute toxicity

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

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l**

Revision date: 21.07.2023

Product code: 13803

Page 8 of 11

**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7664-93-9	sulphuric acid				
	oral	LD50 2140 mg/kg	Rat	Am Ind Hyg Assoc J. 1969 Sep-Oct; 30(5):	The study was performed as part of a ser
7782-63-0	ferrous sulfate heptahydrate				
	oral	LD50 500 mg/kg	Rat	Study report (2004)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2004)	OECD Guideline 402

**Irritation and corrosivity**

Causes skin irritation.  
Causes serious eye irritation.

**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**

There are no data available on the preparation/mixture itself.

**Specific effects in experiment on an animal**

There are no data available on the preparation/mixture itself.

**Additional information on tests**

There are no data available on the preparation/mixture itself.

**Practical experience**

There are no data available on the preparation/mixture itself.

**11.2. Information on other hazards**

**Endocrine disrupting properties**

There are no data available on the preparation/mixture itself.

**Other information**

There are no data available on the preparation/mixture itself.

**Further information**

Irritant  
Risk of serious damage to eyes.

**SECTION 12: Ecological information**

**12.1. Toxicity**

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



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l**

Revision date: 21.07.2023

Product code: 13803

Page 9 of 11

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7664-93-9	sulphuric acid					
	Acute algae toxicity	ErC50 > 100 mg/l	72 h	Desmodesmus subspicatus	Study report (2009)	OECD Guideline 201
	Acute crustacea toxicity	EC50 > 100 mg/l	48 h	Daphnia magna	Study report (2009)	OECD Guideline 202
	Fish toxicity	NOEC 0,025 mg/l	65 d	Jordanella floridae	Water Research Vol. 11, 612 - 626, 1977	Groups of sexually mature flagfish

**12.2. Persistence and degradability**

There are no data available on the mixture itself.

**12.3. Bioaccumulative potential**

There are no data available on the mixture itself.

**BCF**

CAS No	Chemical name	BCF	Species	Source
7782-63-0	ferrous sulfate heptahydrate	48	Fish, Oreochromis mossambicus	Indian Journal of En

**12.4. Mobility in soil**

There are no data available on the mixture itself.

**12.5. Results of PBT and vPvB assessment**

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**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**

**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 empty into 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)**

<b>14.1. UN number or ID number:</b>	UN 2796
<b>14.2. UN proper shipping name:</b>	Sulphuric acid
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	II
Hazard label:	8

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l**

Revision date: 21.07.2023

Product code: 13803

Page 10 of 11

Classification code: C1  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 Transport category: 2  
 Hazard No: 80  
 Tunnel restriction code: E

**Inland waterways transport (ADN)**

**14.1. UN number or ID number:** UN 2796  
**14.2. UN proper shipping name:** Sulphuric acid  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8  
 Classification code: C1  
 Limited quantity: 1 L  
 Excepted quantity: E2

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 2796  
**14.2. UN proper shipping name:** Sulphuric acid  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8  
 Special Provisions: -  
 Limited quantity: 1 L  
 Excepted quantity: E2  
 EmS: F-A, S-B

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

**14.1. UN number or ID number:** UN 2796  
**14.2. UN proper shipping name:** Sulphuric acid  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
 Hazard label: 8  
 Limited quantity Passenger: 0.5 L  
 Passenger LQ: Y840  
 Excepted quantity: E2  
 IATA-packing instructions - Passenger: 851  
 IATA-max. quantity - Passenger: 1 L  
 IATA-packing instructions - Cargo: 855  
 IATA-max. quantity - Cargo: 30 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**SECTION 15: Regulatory information**

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

**EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 75

Information according to 2012/18/EU Not subject to 2012/18/EU (SEVESO III)  
 (SEVESO III):

Marketing and use of explosives precursors (Regulation (EU) 2019/1148):

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions, and significant disappearances and thefts should be reported to the relevant national contact point.

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Iron(II) sulfate solution 0.1 mol / l - 0.1 N solution sulfuric acid in 1 mol / l

Revision date: 21.07.2023

Product code: 13803

Page 11 of 11

#### 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): 12.

##### Abbreviations and acronyms

Met. Corr: Substance or mixture corrosive to metals  
Acute Tox: Acute toxicity  
Skin Corr: Skin corrosion  
Skin Irrit: Skin irritation  
Eye Dam: Eye damage  
Eye Irrit: Eye irritation

#### Classification for mixtures and used evaluation method according to Regulation (EC) No 1272/2008 [CLP]

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Skin Irrit. 2; H315	Calculation method
Eye Irrit. 2; H319	Calculation method

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

H290 May be corrosive to metals.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H319 Causes serious eye irritation.

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

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*