

according to Regulation (EC) No 1907/2006

# Eisen(II)-chloridlösung - FeCl2 in verdünnter Salzsäure etwa 120 g Fe(II)/I und etwa 200 g Cl/I

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

#### 1.1. Product identifier

Eisen(II)-chloridlösung - FeCl2 in verdünnter Salzsäure etwa 120 g Fe(II)/I und etwa 200 g Cl/I

UFI: 62A5-N1RS-K00W-WNJD

#### 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

ACD

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** For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire,

number: 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 Dam. 1; H318

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

### Regulation (EC) No 1272/2008

### Hazard components for labelling

Iron(II) chloride tetrahydrate

Hydrochloric acid

Signal word: Danger

Pictograms:





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#### **Hazard statements**

H290 May be corrosive to metals.
H315 Causes skin irritation.
H318 Causes serious eye damage.

#### **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.

P310 Immediately call a POISON CENTER/doctor.

### 2.3. Other hazards

No data available

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

#### 3.2. Mixtures

### **Chemical characterization**

Mixtures in aqueous solution

### Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No	1272/2008)		
13478-10-9	I/O-9 Iron(II) chloride tetrahydrate			35 - < 40 %
	231-843-4			
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1; H302 H315 H318			
7647-01-0	Hydrochloric acid			1 - < 5 %
	231-595-7	017-002-01-X	01-2119484862-27	
	Skin Corr. 1B, STOT SE 3; H314 H335			

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. L	Specific Conc. Limits, M-factors and ATE			
13478-10-9	231-843-4	Iron(II) chloride tetrahydrate	35 - < 40 %		
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 1300 mg/kg				
7647-01-0	231-595-7 Hydrochloric acid				
	Skin Corr. 1B; H314: >= 25 - 100  Skin Irrit. 2; H315: >= 10 - < 25  Eye Irrit. 2; H319: >= 10 - <				
	25 STOT SE 3; H335: >= 10 - 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.

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#### After contact with skin

Wash immediately with: Water

Take off immediately all contaminated clothing and wash it before reuse.

In case of skin irritation, consult a physician.

### 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.

#### 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

### 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:

Hydrochloric gas

### 5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

Avoid contact with skin, eyes and clothes.

## **Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

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** 

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.

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### 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

If handled uncovered, arrangements with local exhaust ventilation have to be used.

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

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

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. 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.

### 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

Keep container tightly closed.

#### Further information on storage conditions

Unsuitable container/equipment material: Metal

# 7.3. Specific end use(s)

Laboratory chemicals

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

#### 8.1. Control parameters



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### Occupational exposure limits

CAS No	Substance	ppm	mg/m³	fib/cm³	Category	Origin
7647-01-0	Hydrogen chloride	5	8		TWA (8 h)	
		10	15		STEL (15 min)	

## **DNEL/DMEL values**

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
13478-10-9	Iron(II) chloride tetrahydrate			
Worker DNEL,	long-term	inhalation	systemic	0,2 mg/m³
Worker DNEL,	acute	inhalation	systemic	0,2 mg/m³
Worker DNEL,	long-term	dermal	systemic	2,8 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	0,16 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
7647-01-0	Hydrochloric acid			
Worker DNEL, long-term		inhalation	local	8 mg/m³
Worker DNEL, acute		inhalation	local	15 mg/m³
Consumer DNEL, long-term		inhalation	local	8 mg/m³
Consumer DNEL, acute		inhalation	local	15 mg/m³

## PNEC values

CAS No	Substance			
Environmental	Environmental compartment Value			
13478-10-9	Iron(II) chloride tetrahydrate			
Freshwater	Freshwater 0,114 mg/l			
Freshwater (intermittent releases) 0,4		0,4 mg/l		
Marine water		0,057 mg/l		
Freshwater sediment		18,07 mg/kg		
Marine sediment		9,03 mg/kg		
Micro-organisms in sewage treatment plants (STP) 737 mg/l		737 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. Do not breathe gas/fumes/vapour/spray.

# Individual protection measures, such as personal protective equipment

## Eye/face protection

Suitable eye protection: Face protection shield goggles.



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### 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 With specification (test according to EN374):

By long-term hand contact

Recommended glove articles: KCL 730 Camatril® Velours Recommended material: NBR (Nitrile rubber) 0,4 mm Wearing time with permanent contact: > 480 min

By short-term hand contact

Recommended glove articles: KCL 720 Camapren®

Recommended material: CR (polychloroprene, chloroprene rubber) 0,65 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. Protective clothing acid-resistant

## Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

The entrepeneur 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.

## **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: green Odour: odourless

Odour threshold: No data available

Melting point/freezing point: No data available Boiling point or initial boiling point and No data available

boiling range:

Flammability: not applicable not applicable

No data available

Lower explosion limits: Upper explosion limits: No data available Flash point: X

Auto-ignition temperature: No data available Decomposition temperature: No data available pH-Value: acidic

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Viscosity / kinematic:

Water solubility:

No data available easily soluble

Solubility in other solvents

not determined

Partition coefficient n-octanol/water:

Vapour pressure:

Vapour pressure:

No data available

Vapour pressure:

No data available

Density:

1,16 g/cm³

Bulk density:

No data available

Relative vapour density:

No data available

### 9.2. Other information

### Information with regard to physical hazard classes

Explosive properties

No data available

Self-ignition temperature

Solid: not applicable
Gas: not applicable

Oxidizing properties

No data available

## Other safety characteristics

Evaporation rate:

Solvent separation test:

No data available

Solvent content:

Solid content:

Sublimation point:

No data available

No data available

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

No data available

Flow time:
Further Information

# **SECTION 10: Stability and reactivity**

## 10.1. Reactivity

Corrosive to metals.

### 10.2. Chemical stability

Corrosive to metals

The product is stable under storage at normal ambient temperatures.

## 10.3. Possibility of hazardous reactions

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

## 10.4. Conditions to avoid

Heat

### 10.5. Incompatible materials

Keep away from: 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

No data available



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## **SECTION 11: Toxicological information**

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

#### Toxicocinetics, metabolism and distribution

There are no data available on the mixture itself.

#### **Acute toxicity**

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

### **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	
13478-10-9	Iron(II) chloride tetrahydrate						
	oral	LD50 1 mg/kg	300	Mouse	` '	Study was conducted to investigate some	
	dermal	LD50 > mg/kg	2000	Rat	Study report (2004)	OECD Guideline 402	

#### Irritation and corrosivity

Skin corrosion/irritation: Causes skin irritation.

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

slightly irritant but not relevant for classification.

## 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.

#### Specific effects in experiment on an animal

There are no data available on the mixture itself.

#### Additional information on tests

There are no data available on the mixture itself.

#### **Practical experience**

There are no data available on the mixture itself.

### 11.2. Information on other hazards

#### Other information

There are no data available on the mixture itself.

#### **Further information**

Irritant

# **SECTION 12: Ecological information**

### 12.1. Toxicity

There are no data available on the mixture itself.



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CAS No	Chemical name							
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method	
13478-10-9	Iron(II) chloride tetrahydra	Iron(II) chloride tetrahydrate						
	Fish toxicity	NOEC mg/l	0,014	60 d	Salvelinus fontinalis	Environmental Chemistry and Toxicology o	other: Cleveland, L., E.E. Little, 8J. H	
7647-01-0	Hydrochloric acid							
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus			

### 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
13478-10-9	Iron(II) chloride tetrahydrate	ca. 2	Cyprinus carpio	Study report (2001)

#### 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.

The substance in the mixture does 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 empty into 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)

14.1. UN number or ID number: UN 1789

14.2. UN proper shipping name: HYDROCHLORIC ACID

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Classification code:C1Special Provisions:520



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Limited quantity: 5 L
Excepted quantity: E1
Transport category: 3
Hazard No: 80
Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1789

14.2. UN proper shipping name: HYDROCHLORIC ACID

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Classification code:C1Special Provisions:520Limited quantity:5 LExcepted quantity:E1

Marine transport (IMDG)

**14.1. UN number or ID number:** UN 1789

14.2. UN proper shipping name: HYDROCHLORIC ACID

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Special Provisions:223Limited quantity:5 LExcepted quantity:E1EmS:F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1789

14.2. UN proper shipping name: HYDROCHLORIC ACID

14.3. Transport hazard class(es):814.4. Packing group:IIIHazard label:8Special Provisions:A3 A803Limited quantity Passenger:1 LPassenger LQ:Y841Excepted quantity:E1

IATA-packing instructions - Passenger:852IATA-max. quantity - Passenger:5 LIATA-packing instructions - Cargo:856IATA-max. quantity - Cargo:60 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

Information according to Directive

2012/18/EU (SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

National regulatory information



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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): 1,9.

### 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

STOT SE: Specific target organ toxicity - single exposure

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%

# 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 Dam. 1; H318	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.
11040	Carrage agricus area damage

H318 Causes serious eye damage. H335 May cause respiratory 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. Provide appropriate information, instructions and training to users

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