

according to Regulation (EC) No 1907/2006

# Eisen(III)-chlorid CS colorimetrische Lösung in Anlehnung an USP 34

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

## 1.1. Product identifier

Eisen(III)-chlorid CS colorimetrische Lösung in Anlehnung an USP 34

# 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,

<u>number:</u> 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 Eye Dam. 1; H318 Skin Sens. 1; H317

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

#### Regulation (EC) No 1272/2008

# Hazard components for labelling

Iron(III) chloride hexahydrate

Hydrochloric acid

Signal word: Danger

Pictograms:





#### **Hazard statements**

H290 May be corrosive to metals.



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H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.

### **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention P362+P364 Take off contaminated clothing and wash it before reuse.

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

#### 3.2. Mixtures

## **Chemical characterization**

Mixtures in aqueous solution

### Relevant ingredients

CAS No	Chemical name				
	EC No	Index No	REACH No		
	Classification (Regulation (EC) No	1272/2008)			
10025-77-1	Iron(III) chloride hexahydrate			5 - < 10 %	
	231-729-4		01-2119497998-05		
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1; H302 H315 H318 H317				
7647-01-0	7647-01-0 Hydrochloric acid			1 - < 5 %	
	231-595-7	017-002-01-X	01-2119484862-27		
	Skin Corr. 1B, STOT SE 3; H314 H	335			

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			
10025-77-1	231-729-4	Iron(III) chloride hexahydrate	5 - < 10 %		
	dermal: LD50 = > 2000 mg/kg; oral: LD50 = 500 mg/kg				
7647-01-0	231-595-7	Hydrochloric acid	1 - < 5 %		
	Skin Corr. 1B; H314: >= 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**

Take off immediately all contaminated clothing.

#### After inhalation

Provide fresh air.

Call a physician immediately.



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#### After contact with skin

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

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

Never give anything by mouth to an unconscious person or a person with cramps.

Rinse mouth immediately and drink plenty of water.

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

Call a physician immediately.

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

Irritant — skin irritation and eye damage

Causes burns.

Allergic reactions

## 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:

Hydrogen chloride (HCI)

#### 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

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.



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**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.

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. 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

Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities

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

### 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.

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

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

### Requirements for storage rooms and vessels

Store in a well-ventilated place. Keep container tightly closed.

Corrosive to metals.

### Further information on storage conditions

Store in a dry place.



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### 7.3. Specific end use(s)

Laboratory chemicals

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

### 8.1. Control parameters

### 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	
10025-77-1	Iron(III) chloride hexahydrate				
Worker DNEL,	long-term	dermal	systemic	2,8 mg/kg bw/day	
Consumer DN	EL, long-term	dermal	systemic	1,4 mg/kg bw/day	
Consumer DNE	Consumer DNEL, long-term			0,28 mg/kg bw/day	
Consumer DNEL, acute oral systemic 20 i			20 mg/kg bw/day		
7647-01-0	647-01-0 Hydrochloric acid				
Worker DNEL,	Worker DNEL, long-term		local	8 mg/m³	
Worker DNEL, acute		inhalation	local	15 mg/m³	
Consumer DNEL, long-term		inhalation	local	8 mg/m³	
Consumer DNE	EL, acute	inhalation	local	15 mg/m³	

### 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

goggles

Wear eye protection/face protection.

#### Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

KCL 741 Dermatril® L

NBR (Nitrile rubber) 0,11mm

Wearing time with permanent contact: >480min

KCL 741 Dermatril® L

NBR (Nitrile rubber) 0,11mm

Wearing time with occasional contact (splashes): >480min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples



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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.

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: clear
Odour: odourless

Melting point/freezing point:

Boiling point or initial boiling point and

No data available

No data available

boiling range:

Flammability: No data available Lower explosion limits: No data available Upper explosion limits: No data available No data available Flash point: Auto-ignition temperature: No data available Decomposition temperature: No data available pH-Value: acidic Viscosity / kinematic: No data available Water solubility: No data available

Solubility in other solvents

No data available

Partition coefficient n-octanol/water:

Vapour pressure:

Vapour pressure:

No data available

Vapour pressure:

No data available

Density:

1,025 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

Sustaining combustion: No data available

Self-ignition temperature

Solid: No data available
Gas: No data available

Oxidizing properties

No data available



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Other safety characteristics

Evaporation rate:

Solvent separation test:

No data available

Solvent content:

Solid content:

Sublimation point:

Softening point:

No data available

Pour point:

No data available

No data available

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

Corrosive to metals.

# 10.2. Chemical stability

No data available

# 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

### **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	
10025-77-1	Iron(III) chloride hexahyd	Iron(III) chloride hexahydrate					
	oral	LD50 mg/kg	500	Rat	Study report (2004)	OECD Guideline 423	
	dermal	LD50 mg/kg	> 2000	Rat	Study report (2004)	OECD Guideline 402	



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### Irritation and corrosivity

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

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

#### Sensitising effects

May cause an allergic skin reaction. (Iron(III) chloride hexahydrate)

## 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.

## **SECTION 12: Ecological information**

#### 12.1. Toxicity

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h]   [d]	Species	Source	Method
7647-01-0	Hydrochloric acid						
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus		

## 12.3. Bioaccumulative potential

#### **BCF**

CAS No	Chemical name	BCF	Species	Source
10025-77-1	Iron(III) chloride hexahydrate	_	Fish, Oreochromis mossambicus	Indian Journal of En

#### 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.

#### **Further information**

Do not allow to enter into surface water or drains.

Discharge into the environment must be avoided.

# **SECTION 13: Disposal considerations**

## 13.1. Waste treatment methods

#### **Disposal recommendations**

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

Dispose of waste according to applicable legislation.

Do not allow to enter into surface water or drains.

### Contaminated packaging

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

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



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## **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): Ш 14.4. Packing group: Hazard label: 8 Classification code: C1 Special Provisions: 520 Limited quantity: 5 I Excepted quantity: F1 Transport category: 3 Hazard No: 80 Tunnel restriction code: Ε

#### 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

## **SECTION 15: Regulatory information**

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



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### **EU** regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3

### **National regulatory information**

Water hazard class (D): 1 - slightly hazardous to water

### **SECTION 16: Other information**

## 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 Skin Sens: Skin sensitisation

STOT SE: Specific target organ toxicity - single exposure

#### 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				
Eye Dam. 1; H318	Calculation method				
Skin Sens. 1; H317	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.
H317	May cause an allergic skin reaction.
H318	Causes serious eve damage

H318 Causes serious eye damage. H335 May cause respiratory irritation.

#### **Further Information**

Provide appropriate information, instructions and training to users

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