

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### 21718-20 Ferric Chloride Reagent

Revision date: 12.08.2015

Product code: 2171820

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

### 1.1. Product identifier

21718-20 Ferric Chloride Reagent

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### Use of the substance/mixture

Water analysis

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

Company name: HACH LANGE GmbH  
Street: Willstätterstr. 11  
Place: D-40549 Düsseldorf  
Telephone: +49 (0)211 5288-383  
e-mail: SDS@hach.com  
Internet: www.de.hach.com  
Responsible Department: HACH LANGE Ltd.  
5, Pacific Way  
Salford Manchester M50 1DL - United Kingdom  
Tel. +44 (0) 161 872 1487 \* Fax +44 (0) 161 848 7324  
e-Mail: info-uk@hach.com

HACH LANGE Ltd.  
Unit 1, Chestnut Road Western Industrial Estate  
IRL-Dublin 12  
Tel. +353 (0)1 4602522  
e-Mail: info-ie@hach.com

### 1.4. Emergency telephone number:

Poison Control Center Mainz: Tel: +49 (0) 6131 19240 - 24 hour emergency service -

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Hazard categories:

Substance or mixture corrosive to metals: Met. Corr. 1

Acute toxicity: Acute Tox. 4

Skin corrosion/irritation: Skin Corr. 1A

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazard Statements:

May be corrosive to metals.

Harmful if swallowed.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

May cause respiratory irritation.

### 2.2. Label elements

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

#### Hazard components for labelling

Iron(III) chloride

hydrochloric acid ... %

**Signal word:** Danger

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**Pictograms:**

**Hazard statements**

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.

**Precautionary statements**

P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER/doctor.

**Additional advice on labelling**

The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008.

**2.3. Other hazards**

None known.

**SECTION 3: Composition/information on ingredients**
**3.2. Mixtures**
**Hazardous components**

CAS No	Chemical name	Quantity
	EC No	
	Index No	
	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
57-55-6	1,2-Propanediol	70,0 - 80,0 %
	200-338-0	
7705-08-0	Iron(III) chloride	25,0 - 35,0 %
	231-729-4	
	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1C, Skin Sens. 1, STOT SE 3; H290 H302 H314 H317 H335	
-	hydrochloric acid ... %	1,0 - 5,0 %
	231-595-7	
	017-002-01-X	
	Skin Corr. 1B, STOT SE 3; H314 H335	

Full text of H and EUH statements: see section 16.

**SECTION 4: First aid measures**
**4.1. Description of first aid measures**
**General information**

Take off contaminated clothing and shoes immediately.  
Show this safety data sheet to the doctor in attendance.

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#### After inhalation

Move to fresh air.  
If symptoms persist, call a physician.

#### After contact with skin

Wash off immediately with plenty of water for at least 15 minutes.  
If skin irritation persists, call a physician.

#### After contact with eyes

In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

#### After ingestion

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Obtain medical attention.

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

Irritation and corrosion

#### **4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

### SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### **5.2. Special hazards arising from the substance or mixture**

Fire may liberate hazardous vapours.

#### **5.3. Advice for firefighters**

In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.  
In the event of fire, wear self-contained breathing apparatus.

#### **Additional information**

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

### SECTION 6: Accidental release measures

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment.

#### **6.2. Environmental precautions**

Do not flush into surface water or sanitary sewer system.

#### **6.3. Methods and material for containment and cleaning up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

#### **6.4. Reference to other sections**

13. Disposal considerations

### SECTION 7: Handling and storage

#### **7.1. Precautions for safe handling**

##### **Advice on safe handling**

Use only in well-ventilated areas. Avoid contact with skin and eyes.

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

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

Keep container tightly closed in a dry and well-ventilated place.

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**Further information on storage conditions**

Keep locked up or in an area accessible only to qualified or authorised persons.

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

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
7647-01-0	Hydrogen chloride (gas and aerosol mists)	1	2		TWA (8 h)	WEL
		5	8		STEL (15 min)	WEL
57-55-6	Propane-1,2-diol, particulates	-	10		TWA (8 h)	WEL

**Additional advice on limit values**

None known.

**8.2. Exposure controls****Appropriate engineering controls**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

**Protective and hygiene measures**

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Wash hands before breaks and at the end of workday.

**Eye/face protection**

Safety glasses with side-shields

**Hand protection**

Use barrier skin cream.

Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374.

In full contact: Gloves material: Viton, Layer thickness: 0.70 mm, Breakthrough time: &gt;480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: &gt; 30 min

**Skin protection**

Avoid contact with skin, eyes and clothing.

**Respiratory protection**

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	liquid
Colour:	dark yellow
Odour:	like fruit
pH-Value (at 20 °C):	< 0,5

**Changes in the physical state**

Melting point:	< 66 °C
Initial boiling point and boiling range:	115 °C
Sublimation point:	not applicable

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Softening point: not applicable  
Pour point: not applicable  
Flash point: not applicable

**Flammability**

Solid: not applicable  
Gas: not applicable

**Explosive properties**

not applicable

Lower explosion limits: not applicable  
Upper explosion limits: not applicable  
Ignition temperature: not applicable

**Auto-ignition temperature**

Solid: no data available  
Gas: no data available

Decomposition temperature: no data available

**Oxidizing properties**

not applicable

Vapour pressure: no data available

Density (at 20 °C): 1,167 g/cm<sup>3</sup>

Bulk density: not applicable

Water solubility:  
(at 20 °C) soluble**Solubility in other solvents**

soluble

Partition coefficient: no data available

Viscosity / dynamic: no data available

Viscosity / kinematic: no data available

Flow time: no data available

Vapour density: no data available

Evaporation rate: no data available

Solvent separation test: no data available

Solvent content: no data available

**9.2. Other information**

Solid content: not applicable

Corrosive in contact with metals

Mild steel: 6,45 mm/a

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Reacts with the following substances: Oxidizing agents

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**10.4. Conditions to avoid**

To avoid thermal decomposition, do not overheat.

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

 Decomposition products: Carbon dioxide (CO<sub>2</sub>), Carbon monoxide

**SECTION 11: Toxicological information**
**11.1. Information on toxicological effects**
**Toxicokinetics, metabolism and distribution**

No toxicology information is available.

**Acute toxicity**

No data is available on the product itself.

**ATEmix calculated**

ATE (oral) 1762,2 mg/kg

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
57-55-6	1,2-Propanediol				
	oral	LD50 mg/kg	20000	rat	Toxicology and Appli
	dermal	LD50 mg/kg	20800	rabbit	Raw Material Data Ha
7705-08-0	Iron(III) chloride				
	oral	LD50 mg/kg	450		
-	hydrochloric acid ... %				
	dermal	LD50 mg/kg	>5010		

**Irritation and corrosivity**

Causes burns.

**Sensitising effects**

May cause sensitisation by skin contact.

**Carcinogenic/mutagenic/toxic effects for reproduction**

Contains no ingredient listed as a carcinogen

**STOT-single exposure**

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

**STOT-repeated exposure**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**Aspiration hazard**

No aspiration toxicity classification

**Specific effects in experiment on an animal**

No toxicology information is available.

**Further information**

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12: Ecological information

### 12.1. Toxicity

No information on ecology is available.

Do not flush into surface water or sanitary sewer system.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
57-55-6	1,2-Propanediol					
	Acute fish toxicity	LC50 mg/l	51600	96 h	Oncorhynchus mykiss (rainbow trout)	OECD 203
	Acute crustacea toxicity	EC50 mg/l	34400	48 h	Daphnia magna (Water flea)	Information taken from reference works and the literature.
7705-08-0	Iron(III) chloride					
	Acute fish toxicity	LC50	21 mg/l	96 h		
	Acute crustacea toxicity	EC50	9,6 mg/l	48 h		
-	hydrochloric acid ... %					
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus	

### 12.2. Persistence and degradability

No data is available on the product itself.

### 12.3. Bioaccumulative potential

No data is available on the product itself.

### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
57-55-6	1,2-Propanediol	-0,92

### 12.4. Mobility in soil

no data available

### 12.5. Results of PBT and vPvB assessment

no data available

### 12.6. Other adverse effects

No known effect.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Advice on disposal

In accordance with local and national regulations.

#### Waste disposal number of waste from residues/unused products

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

#### Waste disposal number of used product

160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

#### Waste disposal number of contaminated packaging

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160506 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; laboratory chemicals, consisting of or containing hazardous substances, including mixtures of laboratory chemicals; hazardous waste

#### SECTION 14: Transport information

##### Land transport (ADR/RID)

**14.1. UN number:** UN 1789  
**14.2. UN proper shipping name:** HYDROCHLORIC ACID solution  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8



Classification code: C1  
Limited quantity: LQ22  
Hazard No: 80  
Tunnel restriction code: E

##### Other applicable information (land transport)

Special Provisions 520  
Excepted Quantities: E2  
Transport Category: 2

##### Inland waterways transport (ADN)

##### Other applicable information (inland waterways transport)

Not tested

##### Marine transport (IMDG)

**14.1. UN number:** UN 1789  
**14.2. UN proper shipping name:** HYDROCHLORIC ACID, solution  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8



Limited quantity: 1 L  
EmS: F-A, S-B

##### Other applicable information (marine transport)

Special Provisions -  
Excepted Quantities: E2

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

**14.1. UN number:** UN 1789  
**14.2. UN proper shipping name:** HYDROCHLORIC ACID, Solution  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** II  
Hazard label: 8



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Limited quantity Passenger:	0.5 L	
IATA-packing instructions - Passenger:		809
IATA-max. quantity - Passenger:		1 L
IATA-packing instructions - Cargo:		813
IATA-max. quantity - Cargo:		30 L

**Other applicable information (air transport)**

Excepted Quantities: E2

Passenger-LQ: Y809

Special Provisions A3

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: no

**14.6. Special precautions for user**

no data available

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code**

Not relevant

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Water contaminating class (D): 1 - slightly water contaminating

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Changes**

Revision: 12.08.2015

Safety datasheet sections which have been updated: 2, 11

Revision: 12.05.2014

Safety datasheet sections which have been updated: 4, 6, 8, 9, 10, 11, 12, 14

**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.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.

**Further Information**

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

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