

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2042-53 Ferric Chloride - Sulfuric Acid Solution for Volatile Acids**

Revision date: 30.04.2015

Product code: 204253

Page 1 of 8

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

2042-53 Ferric Chloride - Sulfuric Acid Solution for Volatile Acids

**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

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Hazard Statements:

May be corrosive to metals.

Causes skin irritation.

Causes serious eye damage.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

sulphuric acid ... %

Iron(III) chloride hexahydrate

**Signal word:** Danger**Pictograms:**

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## 2042-53 Ferric Chloride - Sulfuric Acid Solution for Volatile Acids

Revision date: 30.04.2015

Product code: 204253

Page 2 of 8

### Hazard statements

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

### Precautionary statements

- P234 Keep only in original packaging.  
P264 Wash thoroughly after handling.  
P280 Wear protective gloves/protective clothing/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.  
P310 Immediately call a POISON CENTER/doctor.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362 Take off contaminated clothing.  
P390 Absorb spillage to prevent material damage.  
P406 Store in a corrosion-resistant container with a resistant inner liner.

### 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]			
7732-18-5	Water			90-98 %
	231-791-2			
7664-93-9	sulphuric acid ... %			< 5 %
	231-639-5	016-020-00-8		
	Skin Corr. 1A; H314			
10025-77-1	Iron(III) chloride hexahydrate			< 5 %
	231-729-4			
	Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1; H302 H315 H318			

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 all contaminated clothing immediately.

#### After inhalation

Move to fresh air.

#### After contact with skin

Wash off immediately with plenty of water.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2042-53 Ferric Chloride - Sulfuric Acid Solution for Volatile Acids**

Revision date: 30.04.2015

Product code: 204253

Page 3 of 8

**After contact with eyes**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**After ingestion**

If conscious, make the victim drink the following: Clean mouth with water and drink afterwards plenty of water.

Consult a physician.

**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. The product itself does not burn.

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

Fire may liberate hazardous vapours.

**5.3. Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

**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).

**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. Do not breathe vapours or spray mist.

**Advice on protection against fire and explosion**

See also section 5

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep containers tightly closed in a cool, well-ventilated place.

**Hints on joint storage**

Do not store together with Bases

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

Reagent for analysis

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2042-53 Ferric Chloride - Sulfuric Acid Solution for Volatile Acids**

Revision date: 30.04.2015

Product code: 204253

Page 4 of 8

**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
7664-93-9	Sulphuric acid (mist)	-	0.05		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 after work.

**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: >480 min. In splash contact: Glove material: nitrile rubber, Layer thickness 0,20 mm, Breakthrough time: > 30 min

**Skin protection**

Remove and wash contaminated clothing before re-use.

**Respiratory protection**

Breathing apparatus only if aerosol or dust is formed. Recommended Filter type: ABEK-filter

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

Physical state:	liquid
Colour:	yellow
Odour:	odourless
pH-Value (at 20 °C):	0,5

**Changes in the physical state**

Melting point:	no data available
Initial boiling point and boiling range:	100 °C
Sublimation point:	not applicable
Softening point:	not applicable
Pour point:	not applicable
:	no data available
Flash point:	not applicable
Sustaining combustion:	No data available

**Flammability**

Solid:	not applicable
Gas:	not applicable

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2042-53 Ferric Chloride - Sulfuric Acid Solution for Volatile Acids**

Revision date: 30.04.2015

Product code: 204253

Page 5 of 8

**Explosive properties**

not applicable

Lower explosion limits:

not applicable

Upper explosion limits:

not applicable

Ignition temperature:

no data available

**Auto-ignition temperature**

Solid:

not applicable

Gas:

not applicable

Decomposition temperature:

no data available

**Oxidizing properties**

not applicable

Vapour pressure:

no data available

Vapour pressure:

no data available

Density (at 20 °C):

1,039 g/cm<sup>3</sup>

Bulk density:

not applicable

Water solubility:

miscible

**Solubility in other solvents**

no data available

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

no data available

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

See also section 10.3

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

**10.5. Incompatible materials**

Strong bases

Alkali metals

**10.6. Hazardous decomposition products**

Sulphur oxides

# Safety Data Sheet

according to Regulation (EC) No 1907/2006

## 2042-53 Ferric Chloride - Sulfuric Acid Solution for Volatile Acids

Revision date: 30.04.2015

Product code: 204253

Page 6 of 8

### Further information

Stable under recommended storage conditions.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute toxicity

No data is available on the product itself.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
10025-77-1	Iron(III) chloride hexahydrate				
	oral	ATE 500 mg/kg			

#### Irritation and corrosivity

H318 - Causes serious eye damage.

May cause skin irritation.

#### Sensitising effects

Contains no substance or substances classified as sensitising.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

#### STOT-single exposure

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

#### 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

sulphuric acid ... %: LD50/oral/rat = 2140 mg/kg

Iron(III) chloride hexahydrate: LD50/oral/rat = 1872 mg/kg

#### Additional information on tests

no data available

#### Practical experience

#### Observations relevant to classification

no data available

#### Other observations

no data available

### Further information

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

## SECTION 12: Ecological information

### 12.1. Toxicity

No data is available on the product itself.

Do not flush into surface water or sanitary sewer system.

### 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.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2042-53 Ferric Chloride - Sulfuric Acid Solution for Volatile Acids**

Revision date: 30.04.2015

Product code: 204253

Page 7 of 8

**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.

**Further information**

no data available

**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**

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

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information****Land transport (ADR/RID)**

- 14.1. UN number:** UN 3264  
**14.2. UN proper shipping name:** Corrosive liquid, acidic, inorganic, n.o.s.  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III

**Inland waterways transport (ADN)**

**Other applicable information (inland waterways transport)**  
Not tested

**Marine transport (IMDG)**

- 14.1. UN number:** UN 3264  
**14.2. UN proper shipping name:** Corrosive liquid, acidic, inorganic, n.o.s. (<10% Sulphuric acid solution)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
**EmS:** F-A,S-B

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

- 14.1. UN number:** UN 3264  
**14.2. UN proper shipping name:** Corrosive liquid, acidic, inorganic, n.o.s. (<10% Sulphuric acid solution)  
**14.3. Transport hazard class(es):** 8

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2042-53 Ferric Chloride - Sulfuric Acid Solution for Volatile Acids**

Revision date: 30.04.2015

Product code: 204253

Page 8 of 8

**14.4. Packing group:** III**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 applicable

**Other applicable information**

no data available

**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: 30.04.2015

Safety datasheet sections which have been updated: 2, 4, 11

**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.

**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.)*