

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

Revision date: 07.07.2015

Product code: 227142

Page 1 of 9

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

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

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 serious eye damage.

Causes skin irritation.

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

hydrogen chloride

Signal word: Danger**Pictograms:**

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

Revision date: 07.07.2015

Product code: 227142

Page 2 of 9

Hazard statements

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

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
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.
P302+P352	IF ON SKIN: Wash with plenty of water.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing.
P390	Absorb spillage to prevent material damage.

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			>99 %
	231-791-2			
7647-01-0	hydrogen chloride			1-5 %
	231-595-7	017-002-00-2		
	Acute Tox. 3, Skin Corr. 1A; H331 H314			
7705-08-0	Iron(III) chloride			<0,5 %
	231-729-4			
	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1C, Skin Sens. 1, STOT SE 3; H290 H302 H314 H317 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 all contaminated clothing immediately.

After inhalation

Move to fresh air.

After contact with skin

Wash off immediately with plenty of water.

After contact with eyes

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

After ingestion

Clean mouth with water and drink afterwards plenty of water.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

Revision date: 07.07.2015

Product code: 227142

Page 3 of 9

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.

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 in a dry, cool place.

Hints on joint storage

None known.

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

Revision date: 07.07.2015

Product code: 227142

Page 4 of 9

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	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

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:	colourless
Odour:	odourless
pH-Value (at 20 °C):	1

Changes in the physical state

Melting point:	0 °C
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

Explosive properties

not applicable

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

Revision date: 07.07.2015

Product code: 227142

Page 5 of 9

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):	0,99 g/cm ³
Bulk density:	not applicable
Water solubility:	soluble
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
Corrosive in contact with metals	
Aluminium : 10,24 mm/a	

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

None known.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

Further information

None known.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

Revision date: 07.07.2015

Product code: 227142

Page 6 of 9

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
7647-01-0	hydrogen chloride				
	inhalation vapour	ATE 3 mg/l			
	inhalation aerosol	ATE 0,5 mg/l			
7705-08-0	Iron(III) chloride				
	oral	LD50 450 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

No data is available on the product itself.

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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

Revision date: 07.07.2015

Product code: 227142

Page 7 of 9

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
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		

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.

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



Safety Data Sheet

according to Regulation (EC) No 1907/2006

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

Revision date: 07.07.2015

Product code: 227142

Page 8 of 9

Classification code: C1
Limited quantity: LQ7
Hazard No: 80

Other applicable information (land transport)

: 520
Transport Category:: 3
: E

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: III
Hazard label: 8



Limited quantity: 5 L
EmS: F-A, S-B

Other applicable information (marine transport)

: 223

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: III
Hazard label: 8



Limited quantity Passenger: 1 L
IATA-packing instructions - Passenger: 819
IATA-max. quantity - Passenger: 5 L
IATA-packing instructions - Cargo: 821
IATA-max. quantity - Cargo: 60 L

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

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit, Hazard Class: 9, UN Number 3316, Package group II, EMS Code: F-A, S-P

Safety Data Sheet

according to Regulation (EC) No 1907/2006

2271-42 Iron Reference Standard Solution 1000 ± 10 mg/l

Revision date: 07.07.2015

Product code: 227142

Page 9 of 9

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): - - not 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: 7.07.2015

Safety datasheet sections which have been updated: 2, 4, 9, 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.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
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.)