Safety Data Sheet

according to Regulation (EC) No 1907/2006

1037-69 Ferrous Iron Reagent

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

1.1. Product identifier

1037-69 Ferrous Iron 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:
Acute toxicity: Acute Tox. 4
Hazardous to the aquatic environment: Aquatic Chronic 2
Hazard Statements:
Harmful if swallowed.
Toxic to aquatic life with long lasting effects.

2.2. Label elements

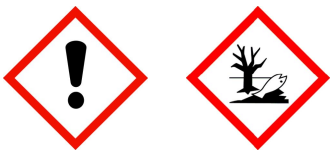
Regulation (EC) No. 1272/2008

Hazard components for labelling

1,10-phenanthroline

Signal word: Warning

Pictograms:



Hazard statements

H302	Harmful if swallowed.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P391	Collect spillage.

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]			
144-55-8	Sodium hydrogen carbonate			90-100 %
	205-633-8			
66-71-7	1,10-phenanthroline			1-10 %
	200-629-2	613-092-00-8		
	Acute Tox. 3, Aquatic Acute 1, Aquatic Chronic 1; H301 H400 H410			

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. Show this safety data sheet to the doctor in attendance.

After inhalation

Move to fresh air. Consult a physician.

After contact with skin

Wash off with soap and water. If symptoms persist, call a physician.

After contact with eyes

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

After ingestion

Drink 1 or 2 glasses of water. Prevent vomiting if possible. Call a physician immediately. Show this safety data sheet to the doctor in attendance.

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

Harmful if swallowed.

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.

Unsuitable extinguishing media

None known.

5.2. Special hazards arising from the substance or mixture

Fire may liberate hazardous vapours.
The following may develop in event of fire: sulfur oxides., Sodium oxides, Carbon monoxide, Carbon dioxide (CO2)

5.3. Advice for firefighters

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

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. Only qualified personnel equipped with suitable protective equipment may intervene. Immediately evacuate personnel to safe areas.
Do not breathe vapours, mist or gas.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal.
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

Avoid contact with skin and eyes. Use only in well-ventilated areas. Do not breathe vapours/dust.

Advice on protection against fire and explosion

See also section 5

Further information on handling

Observe label precautions.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Protect from light, moisture and damage.

Hints on joint storage

Incompatible with oxidizing agents.

Further information on storage conditions

no data available

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional advice on limit values

None known.

8.2. Exposure controls

Appropriate engineering controls

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

Protective and hygiene measures

Wash hands before breaks and after work.
General industrial hygiene practice.

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
Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use.

Skin protection

Avoid contact with skin, eyes and clothing.

Respiratory protection

Provide adequate ventilation.

Environmental exposure controls

Do not flush into surface water or sanitary sewer system.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	powder
Colour:	white
Odour:	odourless
pH-Value:	no data available

Changes in the physical state

Melting point:	not applicable
Initial boiling point and boiling range:	not applicable
Sublimation point:	no data available
Softening point:	no data available
Pour point:	not applicable
:	no data available
Flash point:	not applicable

Flammability

Solid:	no data available
Gas:	no data available

Explosive properties

no data available

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable

Ignition temperature:	no data available
Auto-ignition temperature	
Solid:	no data available
Gas:	no data available
Decomposition temperature:	no data available
Oxidizing properties	
no data available	
Vapour pressure:	no data available
Vapour pressure:	no data available
Density (at 20 °C):	2,10 g/cm³
Bulk density:	no data available
Water solubility: (at 20 °C)	moderately soluble
Solubility in other solvents	
no data available	
Partition coefficient:	not applicable
Viscosity / dynamic:	not applicable
Viscosity / kinematic:	not applicable
Flow time:	not applicable
Vapour density:	not applicable
Evaporation rate:	not applicable
Solvent separation test:	not applicable
Solvent content:	not applicable

9.2. Other information

Solid content:	no data available

no data available

SECTION 10: Stability and reactivity

10.1. Reactivity

None known.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Reactivity Hazard: Oxidizing agents

10.4. Conditions to avoid

Product is sensitive to light and moisture.

10.5. Incompatible materials

Oxidizing agents

10.6. Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO2)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicocinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

Harmful if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
144-55-8	Sodium hydrogen carbonate				
	oral	LD50 4220 mg/kg	rat		
66-71-7	1,10-phenanthroline				
	oral	LD50 132 mg/kg	rat		

Irritation and corrosivity

No known effect.

Sensitising effects

No known effect.

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 toxicology information is available.

Additional information on tests

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

Practical experience

Other observations

None known.

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 let product enter drains.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
144-55-8	Sodium hydrogen carbonate					
	Acute fish toxicity	LC50 7550 mg/l	96 h			
	Acute crustacea toxicity	EC50 2350 mg/l	48 h			
66-71-7	1,10-phenanthroline					
	Acute fish toxicity	LC50 3,2 mg/l	96 h			
	Acute crustacea toxicity	EC50 0,6 mg/l	48 h			

12.2. Persistence and degradability

no data available

12.3. Bioaccumulative potential

no data available

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 data available

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

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	UN 3077
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,10-Phenanthrolin mixture)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Classification code:	M7
Special Provisions:	274 335 375 601
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	90
Tunnel restriction code:	-

Other applicable information (land transport)

Special Provisions:375

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

14.1. UN number:	UN 3077
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,10-Phenanthrolin mixture)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Special Provisions:	274, 335, 966, 967, 969
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-F

Other applicable information (marine transport)

Special Provisions:375

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 3077
14.2. UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (1,10-Phenanthrolin mixture)
14.3. Transport hazard class(es):	9
14.4. Packing group:	III
Hazard label:	9

Special Provisions:	A97 A158 A179 A197
Limited quantity Passenger:	30 kg G
Passenger LQ:	Y956
Excepted quantity:	E1
IATA-packing instructions - Passenger:	956
IATA-max. quantity - Passenger:	400 kg
IATA-packing instructions - Cargo:	956
IATA-max. quantity - Cargo:	400 kg

Other applicable information (air transport)

Special Provisions:375

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: yes

Danger releasing substance: 1,10-phenanthroline

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

Other applicable information

Not relevant

SECTION 15: Regulatory information

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

National regulatory information

Employment restrictions:	Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water contaminating class (D):	3 - highly 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: 7.03.2017
This data sheet contains changes from the previous version in section(s): 2, 4, 11
Revision: 7.06.2016
This data sheet contains changes from the previous version in section(s): 15
Revision: 2.09.2015
This data sheet contains changes from the previous version in section(s): 3, 11
Revision: 21.04.2015
This data sheet contains changes from the previous version in section(s): 14 2, 4, 11
Revision: 23.01.2015
This data sheet contains changes from the previous version in section(s): 4,6,7,12,14,15
Revision: 23.01.2013

Relevant H and EUH statements (number and full text)

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

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.)