Safety Data Sheet

according to Regulation (EC) No 1907/2006

21057-69 FerroVer Iron Reagent

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

1.1. Product identifier

21057-69 FerroVer 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. Pacific Way Salford Manchester M50 1DL - United Kingdom Tel. +44 (0) 161 872 1487 e-Mail: info@hach-lange.co.uk HACH LANGE Ltd. Unit 1, Chestnut Road Western Industrial Estate IRL-Dublin 12 Tel. +353 (0)1 4602522 e-Mail: info@hach-lange.ie
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

Hazard categories:
Acute toxicity: Acute Tox. 4
Skin corrosion/irritation: Skin Irrit. 2
Serious eye damage/eye irritation: Eye Dam. 1
Respiratory or skin sensitisation: Resp. Sens. 1
Specific target organ toxicity - single exposure: STOT SE 3
Hazard Statements:
Harmful if swallowed.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Causes serious eye damage.
Causes skin irritation.
Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazardous components which must be listed on the label

Sodium thiosulfate
sodium metabisulphite
sodium dithionite, sodium hydrosulphite
1,10-Phenanthroline-p-Toluolsulfonacid salt

Signal word: Danger

Pictograms:

Hazard statements

H302	Harmful if swallowed.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
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.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Additional advice on labelling

Classification according to European directive on classification of hazardous preparations 1999/45/EC.
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]			
7772-98-7	Sodium thiosulfate			45-55 %
	231-867-5			
	Skin Irrit. 2, Eye Irrit. 2A, STOT SE 3; H315 H319 H335			
7681-57-4	sodium metabisulphite			20-30 %
	231-673-0	016-063-00-2		
	Acute Tox. 4, Eye Dam. 1; H302 H318 EUH031			
7775-14-6	sodium dithionite, sodium hydrosulphite			15-25 %
	231-890-0	016-028-00-1		
	Self-heat. 1, Acute Tox. 4; H251 H302 EUH031			
68-04-2	tri-Sodium citrate			1-10 %
	200-675-3			
92798-16-8	1,10-Phenanthroline-p-Toluolsulfonacid salt			1-5 %
	Acute Tox. 3, Skin Irrit. 2, Eye Irrit. 2; H301 H315 H319			

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

Further Information

None known.

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. Consult a physician. Show this safety data sheet to the doctor in attendance.

After contact with skin

Wash off with soap and water. Take off all contaminated clothing immediately.
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

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.

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.

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

Sweep up or vacuum up spillage and collect in suitable container 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

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.
Avoid contact with skin, eyes and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store at room temperature in the original container. Protect from light, moisture and damage.

Advice on storage compatibility

Do not store near acids.

Further information on storage conditions

Store between 5 and 25 °C in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.

7.3. Specific end use(s)

Reagent for analysis

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
7681-57-4	Disodium disulphite	-	5		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

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.
Ensure that eye flushing systems and safety showers are located close to the working place.

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

Avoid contact with skin, eyes and clothing.

Respiratory protection

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

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:	crystalline
Colour:	white, light yellow
Odour:	sulphurous

		Test method
pH-Value (at 20 °C):	5,29 (5 % solution)	
Changes in the physical state		
Melting point:	192 °C	
Initial boiling point and boiling range:	not applicable	
Sublimation point:	not applicable	
Softening point:	no data available	
Pour point:	not applicable	
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:	192 °C	
Oxidizing properties		
no data available		
Vapour pressure:	no data available	
Vapour pressure:	no data available	
Density (at 20 °C):	2,27 g/cm³	
Bulk density:	no data available	
Water solubility: (at 20 °C)	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:	no data available

no data available

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: Organic materials, Oxidizing agents, Acids, Aluminium, Sodium nitrite

10.4. Conditions to avoid

Product is sensitive to light and moisture.

10.5. Incompatible materials

Organic materials, Oxidizing agents, Acids

10.6. Hazardous decomposition products

Carbon monoxide, Carbon dioxide (CO_2), Sulphur oxides

Further information

This information is not available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicocinetics, metabolism and distribution

No toxicology information is available.

Acute toxicity

No data is available on the product itself.

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
7772-98-7	Sodium thiosulfate				
	oral	LD50	>5000 mg/kg	rat	RTECS
7681-57-4	sodium metabisulphite				
	oral	LD50	1130 mg/kg	Rat	GESTIS
7775-14-6	sodium dithionite, sodium hydrosulphite				
	oral	ATE	500 mg/kg		
92798-16-8	1,10-Phenanthroline-p-Toluolsulfonacid salt				
	oral	ATE	100 mg/kg		

Irritation and corrosivity

Risk of serious damage to eyes.
May cause skin irritation.

Sensitising effects

May cause sensitisation by skin contact.
May cause sensitisation by inhalation.

STOT-single exposure

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

Severe effects after repeated or prolonged exposure

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

Carcinogenic/mutagenic/toxic effects for reproduction

Contains no ingredient listed as a carcinogen

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

May cause allergic respiratory reaction.

Practical experience

Observations relevant to classification

Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

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	Method	Dose	[h] | [d]	Species	Source
7772-98-7	Sodium thiosulfate					
	Acute fish toxicity	LC50	24000 mg/l	96 h	Gambusia affinis (Mosquito fish)	IUCLID
7681-57-4	sodium metabisulphite					
	Acute fish toxicity	LC50 mg/l	150 - 220	96 h	Onchorhynchus mykiss	
	Acute crustacea toxicity	EC50	89 mg/l	48 h	Daphnia magna	

12.2. Persistence and degradability

no data available

12.3. Bioaccumulative potential

no data available

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
7772-98-7	Sodium thiosulfate	-4,35

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

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 dangerous substances, including mixtures of laboratory chemicals
Classified as 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 dangerous substances, including mixtures of laboratory chemicals
Classified as hazardous waste.

SECTION 14: Transport information

Land transport (ADR/RID)

Other applicable information (land transport)

Not subject to transport regulations.

Inland waterways transport (ADN)

Other applicable information (inland waterways transport)

Not tested

Marine transport (IMDG)

Other applicable information (marine transport)

Not subject to transport regulations.

Air transport (ICAO)

Other applicable information (air transport)

Not subject to transport regulations.

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 MARPOL73/78 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): 2 - 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: 16.04.2015
Safety datasheet sections which have been updated: 2, 4, 11
This data sheet contains changes from the previous version in section(s): 2,4,7,9, 11,12,14,15 Revision: 23.0.1.2013
Safety datasheet sections which have been updated: 4.2
Revision: 18.06.2014

Relevant H- and EUH-phrases (Number and full text)

H251	Self-heating: may catch fire.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
EUH031	Contact with acids liberates toxic gas.

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.)