

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**2301-49 FerroZine Iron Reagent**

Revision date: 27.04.2017

Product code: 230149

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

2301-49 FerroZine Iron Reagent

**1.2. Relevant identified uses of the substance or mixture and uses advised against****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  
Unit 1, Chestnut Road Western Industrial Estate  
Dublin 12 - Ireland  
Tel. +353 (0)1 4602522 \* +353 (0)1 4509337  
info-ie@hach.com

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Acute toxicity: Acute Tox. 1

Acute toxicity: Acute Tox. 3

Skin corrosion/irritation: Skin Corr. 1B

Respiratory or skin sensitisation: Skin Sens. 1

Respiratory or skin sensitisation: Resp. Sens. 1B

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Fatal if inhaled.

Toxic if swallowed.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Harmful to aquatic life with long lasting effects.

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

thioglycolic acid

Ammonium thioglycolate

**Signal word:** Danger**Pictograms:****Hazard statements**

H330 Fatal if inhaled.

H301 Toxic if swallowed.

H314 Causes severe skin burns and eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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H317 May cause an allergic skin reaction.  
H412 Harmful to aquatic life with long lasting effects.

### 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/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

no data available

## 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]			
5421-46-5	Ammonium thioglycolate			35,0-45,0 %
	226-540-9			
	Skin Irrit. 2, Eye Irrit. 2, Resp. Sens. 1B, Skin Sens. 1, Aquatic Chronic 3; H315 H319 H334 H317 H412			
7732-18-5	Water			20-30 %
	231-791-2			
68-11-1	thioglycolic acid			25,0-35,0 %
	200-677-4	607-090-00-6		
	Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Skin Corr. 1B; H331 H311 H301 H314			
69898-45-9	Ferrozine			<1 %

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.

#### After inhalation

Move to fresh air in case of accidental inhalation of dust or fumes from overheating or combustion.  
Consult a physician for severe cases.

#### After contact with skin

Wash off immediately with plenty of water.

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If skin irritation persists, call a physician.

**After contact with eyes**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Consult a physician.

**After ingestion**

Clean mouth with water and drink afterwards plenty of water.

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.

**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**

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

**5.3. Advice for firefighters**

In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

**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). 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.

**Advice on protection against fire and explosion**

See also section 5

**Further information on handling**

Avoid contact with skin, eyes and clothing.

**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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**Advice on storage compatibility**

Incompatible with acids.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
68-11-1	Mercaptoacetic acid	1	5		TWA (8 h)	
		-	-		STEL (15 min)	

**Additional advice on limit values**

None known.

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

Handle in accordance with good industrial hygiene and safety practice.

**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**

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Skin protection**

Avoid contact with skin, eyes and clothing.

**Respiratory protection**In the case of dust or aerosol formation use respirator with an approved filter.  
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:	liquid
Colour:	yellow
Odour:	strong, unpleasant

pH-Value (at 20 °C):	3,5
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**Changes in the physical state**

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

**Test method**

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**Flammability**

Solid: no data available  
Gas: no data available

**Explosive properties**

not applicable

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**

not applicable

Vapour pressure: no data available

Vapour pressure: no data available

Density (at 20 °C): 1,310 g/cm<sup>3</sup>

Bulk density: no data available

Water solubility: miscible  
(at 20 °C)**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**

Reactivity Hazard: Oxidizing agents

**10.2. Chemical stability**

Stable under recommended storage conditions.

**10.3. Possibility of hazardous reactions**

Reacts with the following substances: Oxidizing agents, Strong acids

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight.

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**10.5. Incompatible materials**

Strong acids and oxidizing agents

**10.6. Hazardous decomposition products**

To avoid thermal decomposition, do not overheat. Heating can release hazardous gases.

Ammonia, Sulphur oxides

**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute toxicity**

LD50/oral/rat = 190mg/kg

**ATEmix calculated**

ATE (oral) 137,2 mg/kg; ATE (dermal) 1136,9 mg/kg; ATE (inhalative vapour) 0,28 mg/l; ATE (inhalative aerosol) 0,670 mg/l

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
5421-46-5	Ammonium thioglycolate				
	dermal	LD50 mg/kg	7900	rabbit	
68-11-1	thioglycolic acid				
	oral	LD50 mg/kg	114	rat	
	dermal	LD50 mg/kg	848	rat	
	inhalative (4 h) vapour	LC50	0,21 mg/l	rat	IUCLID
	inhalative aerosol	ATE	0,5 mg/l		

**Irritation and corrosivity**

Causes burns.

**Sensitising effects**

May cause sensitisation by skin contact.

May cause sensitisation by inhalation.

**Specific effects in experiment on an animal**

Thioglycolid acid: LD50/oral/rat = 114mg/kg

Thioglycolid acid: rabbit skin LDLo= 300

**Additional information on tests**

None known.

**Practical experience****Other observations**

None known.

**Further information**

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.

**12.2. Persistence and degradability**

No data is available on the product itself.

**12.3. Bioaccumulative potential**

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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**

Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****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 2922

**14.2. UN proper shipping name:**

CORROSIVE LIQUID, TOXIC, N.O.S.

**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

II

Hazard label:

8+6.1



Classification code:

CT1

Special Provisions:

274

Limited quantity:

1 L

Excepted quantity:

E2

Transport category:

2

Hazard No:

86

Tunnel restriction code:

E

**Other applicable information (land transport)**

Excepted Quantities: E2

**Marine transport (IMDG)****14.1. UN number:**

UN 2922

**14.2. UN proper shipping name:**

CORROSIVE LIQUID, TOXIC, N.O.S. (Thioglycolic acid/ammonium thioglycolate solution)

**14.3. Transport hazard class(es):**

8

**14.4. Packing group:**

II

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Hazard label:

8+6.1



Marine pollutant:

-

Special Provisions:

274

Limited quantity:

1 L

EmS:

F-A, S-B

### Other applicable information (marine transport)

Excepted Quantities: E2

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

#### 14.1. UN number:

UN 2922

#### 14.2. UN proper shipping name:

CORROSIVE LIQUID, TOXIC, N.O.S. (Thioglycolic acid/ammonium thioglycolate solution)

#### 14.3. Transport hazard class(es):

8

#### 14.4. Packing group:

II

Hazard label:

8+6.1



Special Provisions:

A3 A803

Limited quantity Passenger:

0.5 L

IATA-packing instructions - Passenger:

851

IATA-max. quantity - Passenger:

1 L

IATA-packing instructions - Cargo:

855

IATA-max. quantity - Cargo:

30 L

### Other applicable information (air transport)

Excepted Quantities: E2

Passenger-LQ: Y840

### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

### 14.6. Special precautions for user

Use personal protective equipment.

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

not applicable

### Other applicable information

not applicable

## 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):

2 - water contaminating



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**15.2. Chemical safety assessment**

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

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

Revision: 27.04.2017

Safety datasheet sections which have been updated: 2

Revision: 21.05.2015

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

Revision: 17.12.2013

Safety datasheet sections which have been updated: 9, 14

**Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]**

Classification	Classification procedure
Acute Tox. 1; H330	
Acute Tox. 3; H301	
Skin Corr. 1B; H314	
Skin Sens. 1; H317	
Resp. Sens. 1B; H334	
Aquatic Chronic 3; H412	

**Relevant H and EUH statements (number and full text)**

H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412	Harmful 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.)*