

World Headquarters
Hach Company
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MSDS No: M00186

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: FerroZine ® Iron Reagent
Catalog Number: 230149

HACH LANGE GmbH
Willstätterstrasse 11
40549 Düsseldorf, Germany
+49-(0)211-52880

Emergency Telephone Numbers:
(Poison Information Center Main)
(+49 (0) 6131 19240) 24 HR

SDS Number: M00186
Chemical Name: Not applicable
Chemical Formula: Not applicable
Chemical Family: Not applicable
Use of the substance/preparation: Indicator for iron
CAS No.: Not applicable
Hazard: Toxic. Causes eye burns.
Date of MSDS Preparation:
Day: 11
Month: May
Year: 2006

Additional Emergency Response Numbers: Austria: +49 (0)6131 19240, Belgium: +32-(0)70-245245, France: +33-(0)1-40370404, Italy: +39-02-66101029, Netherlands: +31-(0)30-2748888, Switzerland: +41-(0)1-2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Demineralized Water

EEC Number: 2317912
CAS No.: 7732-18-5
Percent Range: 30,0 - 40,0
Percent Range Units: volume / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: Not established

Ammonium Thioglycolate

EEC Number: 2265409
CAS No.: 5421-46-5
Percent Range: 15,0 - 25,0
Percent Range Units: weight / volume
Ingredient EEC Symbol: Not applicable
Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable
TLV: Not established
PEL: Not established

EU Occupational Exposure Limits: For ammonia, 20 ppm (14 mg/m³); STEL: 50 ppm (36 mg/m³)
Recommended

Other component

EEC Number: Not applicable

CAS No.: Not applicable

Percent Range: < 1,0

Percent Range Units: weight / volume

Ingredient EEC Symbol: Not applicable

Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: Not established

Thioglycolic acid

EEC Number: 2006774

CAS No.: 68-11-1

Percent Range: 40,0 - 50,0

Percent Range Units: volume / volume

Ingredient EEC Symbol: T - TOXIC

Ingredient R phrase(s) (R phrase details given in Heading 16): R 23/24/25

TLV: 1 ppm

PEL: 1 ppm

EU Occupational Exposure Limits: 4 mg/m³

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Clear, yellow liquid

Odor: Strong, skunk-like

EU Symbols: T - TOXIC

R PHRASES: R 23/24/25: Toxic by inhalation, in contact with skin and if swallowed. R 34: Causes burns.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): Causes severe irritation

Skin Contact (EC): May cause irritation

Skin Absorption (EC): Toxic

Target Organs (SA E): None Reported

Ingestion (EC): Toxic May cause: abdominal pain ulceration of the digestive tract

Target Organs (Ing E): None Reported

Inhalation: Toxic May cause: weakness difficult breathing respiratory tract irritation

Target Organs (Inh E): None Reported

Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions

Chronic Effects: None reported

Cancer / Reproductive Toxicity Information:

This product does NOT contain any IARC listed chemicals.

Additional Cancer / Reproductive Toxicity Information: None reported

Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.
Skin Contact (First Aid): Wash skin with soap and plenty of water. Call physician if irritation develops.
Ingestion (First Aid): Do not induce vomiting. Give 1-2 glasses of water. Call physician immediately. Never give anything by mouth to an unconscious person.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors.
Hazardous Combustion Products: Toxic fumes of: carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides.
Fire / Explosion Hazards: None reported
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Dry chemical.
Extinguishing Media NOT To Be Used: Not applicable
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:
Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.
Containment Technique: Absorb spilled liquid with non-reactive sorbent material. Stop spilled material from being released to the environment.
Clean-up Technique: Cover spilled material with an alkali, such as soda ash or sodium bicarbonate. Scoop up slurry into a large beaker. Dilute with a large excess of water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution.
Evacuation Procedure: Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. If conditions warrant, increase the size of the evacuation.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin clothing Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.
Storage: Keep away from: acids
Special Packaging Instructions: Not applicable
Use of the substance/preparation: Indicator for iron

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Use a fume hood to avoid exposure to dust, mist or vapor. Have an eyewash station nearby. Maintain general industrial hygiene practices when using this product.
Personal Protective Equipment:
Eye Protection: chemical splash goggles
Skin / Hand Protection: neoprene latex gloves lab coat
Inhalation Protection: laboratory fume hood
Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Keep away from: acids/acid fumes
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Clear, yellow liquid

Physical State: Liquid

Odor: Strong, skunk-like

pH: 3,5

Vapor Pressure: Not available

Vapor Density (air = 1): Not available

Boiling Point: Not available

Melting Point: Not available

Flash Point: Not applicable

Method: Not applicable

Autoignition Temperature: Not available

Flammability Limits:

Lower Explosion Limits: Not applicable

Upper Explosion Limits: Not applicable

Specific Gravity (water = 1): 1,310

Evaporation Rate (water = 1): 0,21

Volatile Organic Compounds Content: Not available

Partition Coefficient (n-octanol / water): Not available

Solubility:

Water: Miscible

Acid: Miscible

Other: Not determined

Metal Corrosivity:

Steel: 0,022 in/yr

Aluminum: 0,004 in/yr

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Conditions to Avoid: Extreme temperatures Exposure to light.

Reactivity / Incompatibility: May react violently in contact with: strong acids oxidizers

Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: ammonia nitrogen oxides sulfur oxides

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:

LD50: Oral rat LD50 = 190 mg/kg

LC50: None reported

Dermal Toxicity Data: None reported

Skin and Eye Irritation Data: None reported

Mutation Data: None reported

Reproductive Effects Data: None reported

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Ingredient Toxicological Data: Thioglycolic acid - Oral rat LD50 = 114 mg/kg; Skin rabbit LDLo = 300 mg/kg

This product does NOT contain any IARC listed chemicals.

12. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product.

Ingredient Ecological Information: --

No ecological data available for the ingredients of this product.

13. DISPOSAL CONSIDERATIONS

NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Toxic Liquid, Organic, N.O.S.
(Thiocycolic Acid/Ammonium Thioglycolate Solution)

ICAO Hazard Class: 6,1

ICAO Subsidiary Risk: NA

ICAO UN/ID Number: UN2810

ICAO Packing Group: III

I.M.O.:

I.M.O. Proper Shipping Name: Toxic Liquid, Organic, N.O.S.
(Thioglycolic Acid/Ammonium Thioglycolate Solution)

I.M.O. Hazard Class: 6,1

I.M.O. Subsidiary Risk: NA

I.M.O. UN Number: UN2810

I.M.O. Packing Group: III

A.D.R.:

A.D.R. Proper Shipping Name: Toxic Liquid, Organic, N.O.S.
(Thioglycolic Acid/Ammonium Thioglycolate Solution)

A.D.R. Hazard Class: 6,1

A.D.R. Subsidiary Risk: NA

A.D.R. UN-Number: 2810

A.D.R. Packing Group: III

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

15. REGULATORY INFORMATION

National Inventories:

EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.

EEC Number: Not applicable

EEC LABEL COPY:

EU Symbols: T - TOXIC

R PHRASES: R 23/24/25: Toxic by inhalation, in contact with skin and if swallowed. R 34: Causes burns.

S PHRASES: S 25: Avoid contact with eyes. S 27: Take off immediately all contaminated clothing. S 28a: After contact with skin, wash immediately with plenty of water. S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

16. OTHER INFORMATION

References: Technical Judgment. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. In-house information. 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Gosselin, R. E. et al. Clinical Toxicology of Commercial Products, 5th Ed. Baltimore: The Williams and Wilkins Co., 1984.

R PHRASES: R 23/24/25: Toxic by inhalation, in contact with skin and if swallowed. R 34: Causes burns.

Use of the substance/preparation: Indicator for iron

Revision Summary: Updates in Section(s) 14,

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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