

Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue: 20.04.2004
Supersedes edition of 28.03.2000

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product

Catalogue No.: 114549
Product name: Iron Cell Test Method: photometric 0.05 - 4.00 mg/l Fe 25 Tests
Spectroquant®
Blindküvette

Use of the substance/preparation

Reagent for analysis

Company/undertaking identification

Company: Merck KGaA * 64271 Darmstadt * Germany * Tel: +49 (0)6151/72-0
Emergency telephone No.: +49 (0)6151/72112 * Fax: +49 (0)6151/72-7780

2. Composition/information on ingredients

CAS-No.: 7732-18-5
M: 18.02 g/mol
Formula Hill: H₂O
EC-No.: 231-791-2

3. Hazards identification

No hazardous product as specified in Directive 67/548/EEC.

4. First aid measures

No special precautionary measures necessary.

5. Fire-fighting measures

Suitable extinguishing media:
In adaption to materials stored in the immediate neighbourhood.

Special risks:
none

6. Accidental release measures

Procedures for cleaning / absorption:
Pour into drain.

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7. Handling and storage

Handling:

No further requirements.

Storage:

Tightly closed in a well-ventilated place. Accessible only for authorised persons. At +15°C to +25°C.

The data apply to the entire pack.

8. Exposure controls/personal protection

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: not required

Eye protection: not required

Hand protection: not required

Industrial hygiene:
not required

9. Physical and chemical properties

Form:	liquid	
Colour:	colourless	
Odour:	odourless	
pH value	(20 °C)	~ 7.0
Melting point		0 °C
Boiling point		100 °C
Ignition temperature		not available
Flash point		not available
Explosion limits	lower	not available
	upper	not available
Density	(20 °C)	0.998 g/cm ³
Solubility in water	(20 °C)	soluble

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10. Stability and reactivity

Conditions to be avoided

none

Substances to be avoided

The generally known reaction partners of water.

Hazardous decomposition products

none

11. Toxicological information

Acute toxicity

No toxic effects are to be expected when the product is handled appropriately.

12. Ecological information

not required

13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging:

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

14. Transport information

Road & Rail ADR, RID

UN 3316 CHEMIE-TESTSATZ, 9, II

Inland waterway ADN, ADNR not tested

Sea IMDG-Code

UN 3316 CHEMICAL KIT, 9, II

Ems F-A S-P

Air CAO, PAX

CHEMICAL KIT, 9, UN 3316, II

The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.
THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK !

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15. Regulatory information

Labelling according to EC Directives

Symbol: ---

R-phrases: ---

S-phrases: ---

German regulations

Water pollution class nwg (nonpolluting substance) VwVwS Anh. 3

Storage class VCI 10-13

16. Other information

Reason for alteration

Chapter 14: transport information.

General update.

Contact for information:

HSSE-C/CI * Tel: +49 (0)6151/722775 * Fax: +49 (0)6151/726433 * e-mail:prodsafe@merck.de

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

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Use of the substance/preparation

Reagent for analysis

Company/undertaking identification

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2. Composition/information on ingredients

Aqueous solution of organic compounds.

Hazardous ingredients:

Name according to EC Directives:

CAS-No.	EC No.	EC-Index-No.	Classification	Content:
Thioglycolic acid 68-11-1	200-677-4	607-090-00-6	T; R23/24/25 C; R34	≥ 25 - < 50 %
Ammonium thioglycolate 5421-46-5	226-540-9		T; R25 Xn; R43	≥ 25 - < 50 %

(Full text of R-Phrases in heading 16)

3. Hazards identification

Toxic by inhalation, in contact with skin and if swallowed. Causes burns. May cause sensitization by skin contact.

4. First aid measures

First-aid personnel: ensure self-protection!

After inhalation: fresh air.

If breathing stops: immediately apply mechanical ventilation, if necessary oxygen mask.

Immediately call in physician.

After skin contact: wash off with plenty of water. Dab with polyethylene glycol 400.

Immediately remove contaminated clothing. Immediately call in physician.

After eye contact: rinse out with plenty of water with the eyelid held wide open. Immediately call in ophthalmologist.

After swallowing: make victim drink plenty of water, avoid vomiting (risk of perforation!).

Immediately call in physician. Do not attempt to neutralize.

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5. Fire-fighting measures

Suitable extinguishing media:
In adaption to materials stored in the immediate neighbourhood.

Special risks:
Non-combustible. Ambient fire may liberate hazardous vapours. The following may develop in event of fire: hydrogen sulfide, sulfur oxides, nitrogen oxides.

Special protective equipment for fire fighting:
Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

Other information:
Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater.

6. Accidental release measures

Person-related precautionary measures:
Do not inhale vapours/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:
Take up with liquid-absorbent material (e.g. Chemizorb®). Forward for disposal. Clean up affected area.

7. Handling and storage

Handling:

Notes for safe handling:
Work under hood. Do not inhale substance. Avoid generation of vapours/aerosols.

Storage:

Tightly closed in a well-ventilated place. Accessible only for authorised persons. At +15°C to +25°C.

The data apply to the entire pack.

8. Exposure controls/personal protection

Specific control parameter

TRGS 900

Name	Thioglycolic acid
Value	4 mg/m ³
Skin resorption	Risk of skin absorption

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Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when vapours/aerosols are generated. Filter B (acc. to DIN 3181) for inorganic gases and vapours

Eye protection: required

Hand protection:

In full contact:

Glove material: polychloroprene
Layer thickness: 0.65 mm
Breakthrough time: > 480 Min.

In splash contact:

Glove material: polychloroprene
Layer thickness: 0.65 mm
Breakthrough time: > 480 Min.

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example KCL 720 Camapren® (full contact), 720 Camapren® (splash contact). The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Industrial hygiene:

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance. Under no circumstances eat or drink at workplace. Work under hood . Do not inhale substance.

9. Physical and chemical properties

Form:	liquid
Colour:	almost colourless
Odour:	weak
pH value	(20 °C) ~ 3-4
Melting point	not available
Boiling point	not available
Ignition temperature	not available
Flash point	not available
Explosion limits	lower not available upper not available
Density	(20 °C) ~ 1.23 g/cm ³
Solubility in water	(20 °C) soluble

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10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

acids, organic substances, strong oxidizing agents, strong alkalis.

Hazardous decomposition products

in the event of fire: See chapter 5.

Further information

sensitive to air; highly reactive;
incompatible with various metals, nonferrous metals and their compounds.

11. Toxicological information

Acute toxicity

thioglycolic acid:

LC₅₀ (inhalation, rat): 0.21 mg/l /4 h (anhydrous substance).

LD₅₀ (oral, rat): 73 mg/kg (anhydrous substance).

The literature data available to us do not conform with the labelling prescribed by the EC. The EC has dossiers which have not been published.

Further toxicological information

Property that must be anticipated on the basis from the components of the preparation:

After inhalation: When vapours/aerosols are generated: burns of mucous membranes, coughing, dyspnoea.

After skin contact: burns, Danger of skin absorption. Risk of skin sensitization.

After eye contact: Burns. Risk of blindness!

After swallowing: burns in mouth, throat, oesophagus and gastrointestinal tract. Risk of perforation in the oesophagus and stomach.

Other notes:

The following applies to ammonium salts in general: after swallowing: local irritation symptoms, nausea, vomiting, diarrhoea. Systemic effect: after the uptake of very large quantities: drop in blood pressure, collapse, CNS disorders, spasms, narcotic conditions, respiratory paralysis, haemolysis.

Further data

Further hazardous properties cannot be excluded.

The product should be handled with the care usual when dealing with chemicals.

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12. Ecological information

Ecotoxic effects:

Quantitative data on the ecological effect of this product are not available.

Property that must be anticipated on the basis from the components of the preparation:

Biological effects:

Harmful effect on aquatic organisms. Toxic effect on fish and algae. Hazard for drinking water supplies. Forms toxic and corrosive mixtures with water even if diluted. Harmful effect due to pH shift.

Further ecologic data:

The following applies to ammonium ions in general: biological effects: fish: toxic as from 0.3 mg/l ; nourishment for fish: toxic as from 0.3 mg/l .

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging:

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

14. Transport information

Road & Rail ADR, RID

UN 3316 CHEMIE-TESTSATZ, 9, II

Inland waterway ADN, ADNR not tested

Sea IMDG-Code

UN 3316 CHEMICAL KIT, 9, II

Ems F-A S-P

Air CAO, PAX

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15. Regulatory information

Labelling according to EC Directives

Symbol:	T	Toxic
R-phrases:	23/24/25-34-43	Toxic by inhalation, in contact with skin and if swallowed. Causes burns. May cause sensitization by skin contact.
S-phrases:	26-36/37/39-45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
contains:	Thioglycolic acid Ammonium thioglycolate	

German regulations

Water pollution class 1 (slightly polluting substance) VwVwS Anh. 4

Storage class VCI 6.1 B

Data sheet of the Chemical Professional Association M004 Irritant substances/corrosive substances
M050 Dealing with harmful substances

Local regulations on chemical accidents: 2

The employment restrictions for young workers in accordance with section 22 of the Youth Employment Protection Law (JArbSchG) are to be observed.

The employment restrictions for expectant and nursing mothers in accordance with sections 4 and 5 of the Maternity Protection Guideline (MuSchRiV) are to be observed.

16. Other information

Text of any R phrases referred to under heading 2:

23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
25	Toxic if swallowed.
34	Causes burns.
43	May cause sensitization by skin contact.

Reason for alteration

Chapter 2: change in ingredients data.
Chapter 14: transport information.

General update.

Contact for information:

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Fe-1K

Use of the substance/preparation

Reagent for analysis

Company/undertaking identification

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Emergency telephone No.: +49 (0)6151/72112 * Fax: +49 (0)6151/72-7780

2. Composition/information on ingredients

Preparation contains organic compounds.

3. Hazards identification

No hazardous product as specified in Directive 67/548/EEC.

4. First aid measures

After inhalation: fresh air.
After skin contact: wash off with plenty of water. Remove contaminated clothing.
After eye contact: rinse out with plenty of water with the eyelid held wide open.
After swallowing: make victim drink plenty of water. Consult doctor if feeling unwell.

5. Fire-fighting measures

Suitable extinguishing media:
Water, CO₂, foam, powder.

Special risks:
Combustible. Formation of hazardous combustion gases or vapours possible in event of fire.

Special protective equipment for fire fighting:
Do not stay in dangerous zone without self-contained breathing apparatus.

Other information:
Prevent fire-fighting water from entering surface water or groundwater.

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Fe-1K

6. Accidental release measures

Person-related precautionary measures:
Avoid generation of dusts; do not inhale dusts.

Environmental-protection measures:
Do not allow to enter sewerage system.

Procedures for cleaning / absorption:
Take up dry. Forward for disposal. Clean up affected area.

7. Handling and storage

Handling:

No further requirements.

Storage:

Tightly closed in a well-ventilated place. Accessible only for authorised persons. At +15°C to +25°C.

The data apply to the entire pack.

8. Exposure controls/personal protection

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when dusts are generated. Filter B (acc. to DIN 3181) for inorganic gases and vapours

Eye protection: required

Hand protection: In full contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 480 Min.
In splash contact:
Glove material: nitrile rubber
Layer thickness: 0.11 mm
Breakthrough time: > 480 Min.

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example KCL 740 Dermatril® (full contact), 740 Dermatril® (splash contact).

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

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Industrial hygiene:
Change contaminated clothing. Wash hands after working with substance.

9. Physical and chemical properties

Form:	solid		
Colour:	white to yellowish-white		
Odour:	odourless		
pH value at 50 g/l H ₂ O	(20 °C)	~ 2.2	
Melting point	not available		
Boiling point	not available		
Ignition temperature	not available		
Flash point	not available		
Explosion limits	lower	not available	
	upper	not available	
Density	not available		
Bulk density	~ 500-800 kg/m ³		
Solubility in water	(24 °C)	~ 330	g/l

10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

not known to date

Hazardous decomposition products

not known to date

Further information

sensitive to moisture.

11. Toxicological information

Acute toxicity

Quantitative data on the toxicity of this product are not available.

Further toxicological information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Further data

The product should be handled with the care usual when dealing with chemicals.

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12. Ecological information

Ecotoxic effects:

Quantitative data on the ecological effect of this product are not available.

Further ecologic data:

A harmful effect on aquatic organisms cannot be excluded in the event of improper handling or disposal.

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product:

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging:

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UN 3316 CHEMIE-TESTSATZ, 9, II

Inland waterway ADN, ADNR not tested

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THESE TRANSPORT DATA APPLY TO THE ENTIRE PACK !

15. Regulatory information

Labelling according to EC Directives

Symbol: ---

R-phrases: ---

S-phrases: ---

German regulations

Water pollution class 3 (highly polluting substance) VwVwS Anh. 4

Storage class VCI 10-13

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Reason for alteration

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General update.

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