

Safety Data Sheet

According to EC Directive 91/155/EEC

Date of issue: 15.01.2004
Supersedes edition of 13.03.2001

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

Identification of the product

Catalogue No.: 114683
Product name: Residual hardness Cell Test Method: photometric 0.50 - 5.00 mg/l
Ca 25 Tests
0.070 - 0.700 °d
0.087 - 0.874 °e
0.12 - 1.25 °f
0.70 - 7.00 CaO
1.2 - 12.5 mg/l CaCO₃ Spectroquant®
Reaktionsküvette

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

Aqueous solution of inorganic and 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. Call in ophthalmologist.
After swallowing: make victim drink plenty of water, induce vomiting, call in physician.

Merck Safety Data Sheet

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0.70 - 7.00 CaO
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Reaktionsküvette

5. Fire-fighting measures

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

Special risks:
Preparation with combustible ingredients. Development of hazardous combustion gases or vapours possible in the event of fire.

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:
Cool container with spray water from a safe distance. Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater.

6. Accidental release measures

Person-related precautionary measures:
Avoid substance contact. Do not inhale vapours/aerosols. 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:

No further requirements.

Storage:

Tightly closed. Cool (+2°C to +8°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.

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Respiratory protection: required when vapours/aerosols are generated.

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).

Industrial hygiene:

Change contaminated clothing. Application of skin- protective barrier cream recommended. Wash hands after working with substance.

9. Physical and chemical properties

Form:	liquid	
Colour:	colourless	
Odour:	odourless	
pH value	(20 °C)	~ 9.5
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)	1.03 g/cm ³
Solubility in water	(20 °C)	soluble

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Reaktionsküvette

10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

The generally known reaction partners of water.

Hazardous decomposition products

none

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.

12. Ecological information

Ecotoxic effects:

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

Further ecologic data:

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.

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1.2 - 12.5 mg/l CaCO₃ Spectroquant®
Reaktionsküvette

14. Transport information

Entire package: not subject to transport regulations.

15. Regulatory information

Labelling according to EC Directives

Symbol: ---

R-phrases: ---

S-phrases: ---

German regulations

Water pollution class 2 (polluting substance) VwVwS Anh. 4

Storage class VCI 10-13

16. Other information

Reason for alteration

Chapter 5: fire-fighting measures.

Chapter 8: personal protective equipment.

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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According to EC Directive 91/155/EEC

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1.2 - 12.5 mg/l CaCO₃ Spectroquant®
RH-1K

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

Aqueous solution of 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. Subsequently administer: activated charcoal (20 - 40 g in 10% slurry). Laxative: Sodium sulfate (1 tablespoon/1/4 l water). Call in physician.

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.

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:
Cool container with spray water from a safe distance. Contain escaping vapours with water. Prevent fire-fighting water from entering surface water or groundwater.

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0.12 - 1.25 °f
0.70 - 7.00 CaO
1.2 - 12.5 mg/l CaCO₃ Spectroquant®
RH-1K

6. Accidental release measures

Person-related precautionary measures:

Avoid substance contact. Do not inhale vapours/aerosols. 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:

No further requirements.

Storage:

Tightly closed. Cool (+2°C to +8°C).

The data apply to the entire pack.

8. Exposure controls/personal protection

Specific control parameter

TRGS 900

Name	Dimethyl sulfoxide
Value	160 mg/m ³
Skin resorption	Risk of skin absorption

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.

Eye protection: required

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RH-1K

Hand protection:

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

In splash contact:
Glove material: natural latex
Layer thickness: 0.6 mm
Breakthrough time: > 240 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), 706 Lapren® (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).

Industrial hygiene:
Change contaminated clothing. Application of skin- protective barrier cream recommended. Wash hands after working with substance.

9. Physical and chemical properties

Form:	liquid	
Colour:	colourless	
Odour:	odourless	
pH value	(20 °C)	< 1
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)	1.003 g/cm ³
Solubility in water	(20 °C)	soluble

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RH-1K

10. Stability and reactivity

Conditions to be avoided

Heating.

Substances to be avoided

alkali metals, hydrides, nitrates, halogen-halogen compounds, perchloric acid, perchlorates, chlorates, nonmetallic oxyhalides, oxyhalogenic compounds, acid halides, nitrogen oxides, sulfur oxides, strong oxidizing agents.

The generally known reaction partners of water.

Hazardous decomposition products

no information available

11. Toxicological information

Acute toxicity

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

Further toxicological information

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

After skin contact: Slight irritations. Danger of skin absorption.

After eye contact: Slight irritations.

Possible symptoms: After uptake: CNS disorders, nausea, tiredness, headache.

Possible damages: Damage of: liver, kidneys.

Further data

Further hazardous properties cannot be excluded.

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

12. Ecological information

Ecotoxic effects:

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

Further ecologic data:

No ecological problems are to be expected when the product is handled and used with due care and attention.

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.

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RH-1K

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

Entire package: not subject to transport regulations.

15. Regulatory information

Labelling according to EC Directives

Symbol: ---
R-phrases: ---
S-phrases: ---

German regulations

Water pollution class 1 (slightly polluting substance) VwVwS Anh. 4
Storage class VCI 10-13

16. Other information

Reason for alteration

Chapter 15: deletion of labelling as hazardous substance after reevaluation.
Chapter 2: change in ingredients data.
Chapter 4: first aid measures.
Chapter 5: fire-fighting measures.
Chapter 8: personal protective equipment.
Chapter 11: toxicological information.

Chapter 8: specific control parameter.

General update.

Contact for information:

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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

Aqueous solution.

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. Call in ophthalmologist if necessary.
After swallowing (large amounts): consult doctor if feeling unwell.

5. Fire-fighting measures

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

Special risks:
Non-combustible.

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0.70 - 7.00 CaO
1.2 - 12.5 mg/l CaCO₃ Spectroquant®
Blindküvette

6. Accidental release measures

Person-related precautionary measures:
Do not inhale vapours/aerosols.

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:

No further requirements.

Storage:

Tightly closed. Cool (+2°C to +8°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 vapours/aerosols are generated.

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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1.2 - 12.5 mg/l CaCO₃ Spectroquant®
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Industrial hygiene:
Wash hands after working with substance.

9. Physical and chemical properties

Form:	liquid	
Colour:	pink	
Odour:	odourless	
pH value		not available
Melting point		not available
Boiling point		~ 100 °C
Ignition temperature		not available
Flash point		not available
Explosion limits	lower	not available
	upper	not available
Density	(20 °C)	1.00 g/cm ³
Solubility in water	(25 °C)	freely soluble

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

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

Further toxicological information

No first-hand knowledge of hazardous properties.

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:

No ecological problems are to be expected when the product is handled and used with due care and attention.

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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14. Transport information

Entire package: not subject to transport regulations.

15. Regulatory information

Labelling according to EC Directives

Symbol: ---

R-phrases: ---

S-phrases: ---

German regulations

Water pollution class nwg (nonpolluting substance) VwVwS Anh. 4

Storage class VCI 10-13

16. Other information

Reason for alteration

Chapter 4: first aid measures.

Chapter 8: personal protective equipment.

General update.

Contact for information:

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