

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 27.05.2014

Version 3.0

## SECTION 1. Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Catalogue No.	100961
Product name	Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub> Spectroquant®

H

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merck-chemicals.com">www.merck-chemicals.com</a> ).
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### 1.3 Details of the supplier of the safety data sheet

Company	WTW * 82362 Weilheim * Germany * Tel. ++49(0)881 183-0
Responsible Department	e-mail: <a href="mailto:Info.WTW@XylemInc.com">Info.WTW@XylemInc.com</a>

**1.4 Emergency telephone number** +49 (0)6151/722440 \* Telefax: +49 (0)6151/727780

## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

This mixture is not classified as dangerous according to European Union legislation.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

##### *Hazard statements*

Safety data sheet available on request.

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

### 2.3 Other hazards

None known.

## SECTION 3. Composition/information on ingredients

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1.2 - 53.7 °f  
7 - 301 mg/l CaO  
12 - 537 mg/l CaCO<sub>3</sub> Spectroquant®  
H

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Chemical nature Aqueous solution of inorganic and organic compounds.

**3.1 Substance**  
not applicable

**3.2 Mixture**

**Hazardous components (REGULATION (EC) No 1272/2008)**

*Chemical Name (Concentration)*

CAS-No. Registration number Classification

imidazole ( $\geq 0.1\%$  -  $< 1\%$ )

*Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.*

288-32-4 01-2119485825-24-

XXXX

Acute toxicity, Category 4, H302

Skin corrosion, Category 1B, H314

Reproductive toxicity, Category 2, H361d

For the full text of the H-Statements mentioned in this Section, see Section 16.

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**SECTION 4. First aid measures**

**4.1 Description of first aid measures**

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

**4.2 Most important symptoms and effects, both acute and delayed**

We have no description of any toxic symptoms.

**4.3 Indication of any immediate medical attention and special treatment needed**

No information available.

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**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*

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Not combustible.

Ambient fire may liberate hazardous vapours.

**5.3 Advice for firefighters**

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*Special protective equipment for firefighters*  
In the event of fire, wear self-contained breathing apparatus.

*Further information*  
Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### 6.2 Environmental precautions

No special precautionary measures necessary.

### 6.3 Methods and materials for containment and cleaning up

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

*Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

*Storage conditions*

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Recommended storage temperature see product label.

The data applies to the entire pack.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values. *imidazole (288-32-4)*

Worker DNEL, longterm	Systemic effects	inhalation	10.6 mg/m <sup>3</sup>
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Worker DNEL, Systemic effects dermal 1.5 mg/kg Body weight  
longterm

## 8.2 Exposure controls

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

Glove material: Nitrile rubber  
Glove thickness: 0.11 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0.11 mm  
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. 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](http://www.kcl.de)).

#### *Respiratory protection*

Not required; except in case of aerosol formation.

## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form liquid  
Colour colourless  
Odour odourless

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Odour Threshold	not applicable
pH	7.6 at 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	does not flash
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	ca.0.999 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

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See section 10.3

#### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

#### 10.3 Possibility of hazardous reactions

Because of low concentration of the dissolved substance(s): none; exception: the generally known reaction partners of water.

#### 10.4 Conditions to avoid

no information available

#### 10.5 Incompatible materials

no information available

#### 10.6 Hazardous decomposition products

no information available

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### SECTION 11. Toxicological information

#### 11.1 Information on toxicological effects

##### Mixture

##### *Acute oral toxicity*

This information is not available.

##### *Acute inhalation toxicity*

This information is not available.

##### *Acute dermal toxicity*

This information is not available.

##### *Skin irritation*

This information is not available.

##### *Eye irritation*

This information is not available.

##### *Sensitisation*

This information is not available.

##### *Germ cell mutagenicity*

This information is not available.

##### *Carcinogenicity*

This information is not available.

##### *Reproductive toxicity*

This information is not available.

##### *Teratogenicity*

This information is not available.

##### *Specific target organ toxicity - single exposure*

This information is not available.

##### *Specific target organ toxicity - repeated exposure*

This information is not available.

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*Aspiration hazard*

This information is not available.

**11.2 Further information**

Hazardous properties cannot be excluded, but are relatively improbable due to the low concentration of the dissolved substance(s).

Handle in accordance with good industrial hygiene and safety practice.

**Components**

*imidazole*

*Acute oral toxicity*

LD50 rat: 970 mg/kg (IUCLID)

*Skin irritation*

rabbit

Result: Causes burns.

OECD Test Guideline 404

*Eye irritation*

rabbit

Result: Causes serious eye damage.

OECD Test Guideline 405

*Repeated dose toxicity*

rat

male and female

Oral

NOAEL: 60 mg/kg

OECD Test Guideline 408

*Germ cell mutagenicity*

*Genotoxicity in vivo*

Mutagenicity (mammal cell test): chromosome aberration.

mouse

Result: negative

Method: OECD Test Guideline 474

*Genotoxicity in vitro*

UDS (Unscheduled DNA synthesis assay)

Result: negative

Method: OECD Test Guideline 482

HGPRT (cell forward mutation assay)

Result: negative

Method: OECD Test Guideline 476

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**SECTION 12. Ecological information**

**Mixture**

**12.1 Toxicity**

No information available.

**12.2 Persistence and degradability**

No information available.

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**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**12.6 Other adverse effects**

Discharge into the environment must be avoided.

**Components**

*imidazole*

*Toxicity to fish*

LC50 *Leuciscus idus* (Golden orfe): ca. 280 mg/l; 48 h  
DIN 37 412 T 15 (External MSDS)

*Toxicity to daphnia and other aquatic invertebrates*

EC50 *Daphnia magna* (Water flea): 341.5 mg/l; 48 h  
OECD Test Guideline 202

*Toxicity to algae*

IC50 *Desmodesmus subspicatus* (green algae): 130 mg/l; 72 h (IUCLID)

static test ErC50 *Scenedesmus quadricauda* (Green algae): 133 mg/l; 72 h  
DIN 38412 (External MSDS)

*Toxicity to bacteria*

EC50 *Photobacterium phosphoreum*: 231 mg/l; 30 min (IUCLID)

EC50 *Pseudomonas putida*: 1,200 mg/l; 17 h (IUCLID)

*Biodegradability*

90 - 100 %; aerobic  
OECD Test Guideline 301A  
Readily biodegradable.

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.



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### SECTION 13. Disposal considerations

#### *Waste treatment methods*

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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### 14. Transport information

#### Land transport (ADR/RID)

14.1 UN number	UN 3316
14.2 Proper shipping name	CHEMICAL KIT
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

#### Inland waterway transport (ADN)

Not relevant

#### Air transport (IATA)

14.1 UN number	UN 3316
14.2 Proper shipping name	CHEMICAL KIT
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

#### Sea transport (IMDG)

14.1 UN number	UN 3316
14.2 Proper shipping name	CHEMICAL KIT
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-A S-P

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**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

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## SECTION 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### *EU regulations*

Major Accident Hazard 96/82/EC  
Legislation Directive 96/82/EC does not apply

Regulation (EC) No 1005/2009 on substances that not regulated  
deplete the ozone layer

Regulation (EC) No 850/2004 of the European not regulated  
Parliament and of the Council of 29 April 2004 on  
persistent organic pollutants and amending  
Directive 79/117/EEC

Regulation (EC) No 689/2008 concerning the export not regulated  
and import of dangerous chemicals

Substances of very high concern (SVHC) This product does not contain substances  
of very high concern according to  
Regulation (EC) No 1907/2006 (REACH),  
Article 57 above the respective regulatory  
concentration limit of  $\geq 0.1$  % (w/w).

#### *National legislation*

Storage class 3  
The data applies to the entire pack.

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

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## SECTION 16. Other information

**Full text of H-Statements referred to under sections 2 and 3.**

#### **Training advice**

Provide adequate information, instruction and training for operators.

#### **Labelling (67/548/EEC or 1999/45/EC)**

The product does not need to be labelled in accordance with EC directives or respective national laws.

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**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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

DOMINIQUE DUTSCHER SAS

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 27.05.2014

Version 3.0

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

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REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merck-chemicals.com">www.merck-chemicals.com</a> ).
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**1.3 Details of the supplier of the safety data sheet**

Company	WTW * 82362 Weilheim * Germany * Tel. ++49(0)881 183-0
Responsible Department	e-mail: <a href="mailto:Info.WTW@Xylem-inc.com">Info.WTW@Xylem-inc.com</a>

**1.4 Emergency telephone number** +49 (0)6151/722440 \* Telefax: +49 (0)6151/727780**SECTION 2. Hazards identification****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Flammable liquid, Category 3, H226

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification (67/548/EEC or 1999/45/EC)**

Flammable R10

For the full text of the R-phrases mentioned in this Section, see Section 16.

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## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*  
Warning

*Hazard statements*

H226 Flammable liquid and vapour.

*Precautionary statements*

Prevention

P210 Keep away from heat.

**Reduced labelling (≤125 ml)**

*Hazard pictograms*



*Signal word*  
Warning

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

Chemical nature Aqueous solution of inorganic and organic compounds.

### 3.1 Substance

not applicable

### 3.2 Mixture

For the full text of the H-Statements mentioned in this Section, see Section 16.

Remarks

No disclosure requirement according to Regulation (EC) No. 1907/2006.

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

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In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

**4.2 Most important symptoms and effects, both acute and delayed**

irritant effects, respiratory paralysis, Dermatitis, Dizziness, narcosis, inebriation, euphoria, Nausea, Vomiting

**4.3 Indication of any immediate medical attention and special treatment needed**

No information available.

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**SECTION 5. Firefighting measures**

**5.1 Extinguishing media**

*Suitable extinguishing media*

Water, Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Combustible.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapours possible in the event of fire.

**5.3 Advice for firefighters**

*Special protective equipment for firefighters*

In the event of fire, wear self-contained breathing apparatus.

*Further information*

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6. Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid substance contact. Do not breathe vapours, aerosols. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

**6.2 Environmental precautions**

Do not empty into drains. Risk of explosion.

**6.3 Methods and materials for containment and cleaning up**

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Cover drains. Collect, bind, and pump off spills.  
Observe possible material restrictions (see sections 7 and 10).  
Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

## 6.4 Reference to other sections

Indications about waste treatment see section 13.

## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

*Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

*Hygiene measures*

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

*Storage conditions*

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Recommended storage temperature see product label.

The data applies to the entire pack.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Components with workplace control parameters

*Components*

Basis	Value	Threshold limits	Remarks
<i>ethanol (64-17-5)</i>			
EH40 WEL	Time Weighted Average (TWA):	1,000 ppm 1,920 mg/m <sup>3</sup>	

#### Recommended monitoring procedures

Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

### 8.2 Exposure controls

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H-1K

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### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Safety glasses

#### *Hand protection*

full contact:

Glove material: butyl-rubber  
Glove thickness: 0.7 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0.40 mm  
Break through time: > 120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 730 Camatril® -Velours (splash contact).

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. 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](http://www.kcl.de)).

#### *Other protective equipment*

Flame retardant antistatic protective clothing

#### *Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### Environmental exposure controls

Do not empty into drains.

Risk of explosion.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties



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Form	liquid
Colour	colourless
Odour	ethanolic
Odour Threshold	No information available.
pH	ca. 7.5 at 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	ca. 25 °C
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	ca.0.929 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n- octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No.	100961
Product name	Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub> Spectroquant® H-1K

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none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

Vapour/air-mixtures are explosive at intense warming.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Risk of explosion/exothermic reaction with:

hydrogen peroxide, perchlorates, perchloric acid, Nitric acid, mercury(II) nitrate, permanganic acid, Nitriles, peroxi compounds, Strong oxidizing agents, nitrosyl compounds, Peroxides, sodium, Potassium, halogen oxides, calcium hypochlorite, nitrogen dioxide, metallic oxides, uranium hexafluoride, iodides, Chlorine, Alkali metals, Alkaline earth metals, alkali oxides, Ethylene oxide silver, with, Nitric acid

silver compounds, with, Ammonia

potassium permanganate, with, conc. sulfuric acid

Risk of ignition or formation of inflammable gases or vapours with:

halogen-halogen compounds, chromium(VI) oxide, chromyl chloride, Fluorine, hydrides, Oxides of phosphorus, platinum

Nitric acid, with, potassium permanganate

### 10.4 Conditions to avoid

Heating.

### 10.5 Incompatible materials

rubber, various plastics

### 10.6 Hazardous decomposition products

no information available

---

## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### Mixture

*Acute oral toxicity*

Symptoms: Nausea, Vomiting

*Acute inhalation toxicity*

absorption

Symptoms: slight mucosal irritations

*Acute dermal toxicity*

This information is not available.

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## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	100961
Product name	Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub> Spectroquant® H-1K

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### *Skin irritation*

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

### *Eye irritation*

slight irritation

### *Sensitisation*

This information is not available.

### *Germ cell mutagenicity*

This information is not available.

### *Carcinogenicity*

This information is not available.

### *Reproductive toxicity*

This information is not available.

### *Teratogenicity*

This information is not available.

### *Specific target organ toxicity - single exposure*

This information is not available.

### *Specific target organ toxicity - repeated exposure*

This information is not available.

### *Aspiration hazard*

This information is not available.

## 11.2 Further information

Systemic effects:

euphoria

After absorption of large quantities:

Dizziness, inebriation, narcosis, respiratory paralysis

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### Mixture

#### 12.1 Toxicity

No information available.

#### 12.2 Persistence and degradability

No information available.

#### 12.3 Bioaccumulative potential

No information available.

#### 12.4 Mobility in soil

No information available.

#### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No.	100961
Product name	Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub> Spectroquant® H-1K

#### 12.6 Other adverse effects

Discharge into the environment must be avoided.

### SECTION 13. Disposal considerations

#### *Waste treatment methods*

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

### 14. Transport information

#### Land transport (ADR/RID)

14.1 UN number	UN 3316
14.2 Proper shipping name	CHEMICAL KIT
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

#### Inland waterway transport (ADN)

Not relevant

#### Air transport (IATA)

14.1 UN number	UN 3316
14.2 Proper shipping name	CHEMICAL KIT
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	--
14.6 Special precautions for user	no

#### Sea transport (IMDG)

14.1 UN number	UN 3316
14.2 Proper shipping name	CHEMICAL KIT
14.3 Class	9
14.4 Packing group	III
14.5 Environmentally hazardous	--

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 100961  
Product name Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca  
0.7 - 30.1 °d  
0.9 - 37.6 °e  
1.2 - 53.7 °f  
7 - 301 mg/l CaO  
12 - 537 mg/l CaCO<sub>3</sub> Spectroquant®  
H-1K

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**14.6 Special precautions for user** yes  
EmS F-A S-P

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

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## SECTION 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### *EU regulations*

Major Accident Hazard 96/82/EC  
Legislation Flammable.  
6  
Quantity 1: 5,000 t  
Quantity 2: 50,000 t

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1$  % (w/w).

#### *National legislation*

Storage class 3  
The data applies to the entire pack.

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 100961  
Product name Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca  
0.7 - 30.1 °d  
0.9 - 37.6 °e  
1.2 - 53.7 °f  
7 - 301 mg/l CaO  
12 - 537 mg/l CaCO<sub>3</sub> Spectroquant®  
H-1K

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**SECTION 16. Other information**

**Full text of H-Statements referred to under sections 2 and 3.**

H226 Flammable liquid and vapour.

**Full text of R-phrases referred to under sections 2 and 3**

R10 Flammable.

**Training advice**

Provide adequate information, instruction and training for operators.

**Labelling (67/548/EEC or 1999/45/EC)**

*R*-phrase(s) 10 Flammable.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 27.05.2014

Version 3.0

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

Catalogue No.	100961
Product name	Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub> Spectroquant®  H-2K

REACH Registration Number This product is a mixture. REACH Registration Number see section 3.

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal ( <a href="http://www.merck-chemicals.com">www.merck-chemicals.com</a> ).
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**1.3 Details of the supplier of the safety data sheet**

Company	WTW * 82362 Weilheim * Germany * Tel. ++49(0)881 183-0
Responsible Department	e-mail: <a href="mailto:Info.WTW@Xylem-inc.com">Info.WTW@Xylem-inc.com</a>

**1.4 Emergency telephone number** +49 (0)6151/722440 \* Telefax: +49 (0)6151/727780**SECTION 2. Hazards identification****2.1 Classification of the substance or mixture**

This mixture is not classified as dangerous according to European Union legislation.

**2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

**2.3 Other hazards**

None known.

**SECTION 3. Composition/information on ingredients**

Chemical nature	Aqueous solution of inorganic and organic compounds.
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**3.1 Substance**

not applicable

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No.	100961
Product name	Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub> Spectroquant® H-2K

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### 3.2 Mixture

For the full text of the H-Statements mentioned in this Section, see Section 16.

Remarks	No disclosure requirement according to Regulation (EC) No. 1907/2006.
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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower.

After eye contact: rinse out with plenty of water.

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

### 4.2 Most important symptoms and effects, both acute and delayed

We have no description of any toxic symptoms.

### 4.3 Indication of any immediate medical attention and special treatment needed

No information available.

---

## 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*

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

*Special protective equipment for firefighters*

In the event of fire, wear self-contained breathing apparatus.

*Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

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SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No.	100961
Product name	Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub> Spectroquant® H-2K

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Advice for emergency responders: Protective equipment see section 8.

### 6.2 Environmental precautions

Do not empty into drains.

### 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

### 6.4 Reference to other sections

Indications about waste treatment see section 13.

---

## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

*Advice on safe handling*

Observe label precautions.

*Hygiene measures*

Change contaminated clothing. Wash hands after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

*Storage conditions*

Tightly closed in a well-ventilated place, away from sources of ignition and heat.

Recommended storage temperature see product label.

The data applies to the entire pack.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

---

## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

#### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

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SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 100961  
Product name Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca  
0.7 - 30.1 °d  
0.9 - 37.6 °e  
1.2 - 53.7 °f  
7 - 301 mg/l CaO  
12 - 537 mg/l CaCO<sub>3</sub> Spectroquant®  
H-2K

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*Eye/face protection*

Safety glasses

*Hand protection*

full contact:

Glove material: Nitrile rubber  
Glove thickness: 0.11 mm  
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber  
Glove thickness: 0.11 mm  
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. 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](http://www.kcl.de)).

*Respiratory protection*

Not required; except in case of aerosol formation.

**Environmental exposure controls**

Do not empty into drains.

---

**SECTION 9. Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

Form	liquid
Colour	colourless
Odour	odourless
Odour Threshold	not applicable
pH	ca. 7.5 at 20 °C
Melting point	No information available.
Boiling point	No information available.
Flash point	not applicable

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 100961  
Product name Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca  
0.7 - 30.1 °d  
0.9 - 37.6 °e  
1.2 - 53.7 °f  
7 - 301 mg/l CaO  
12 - 537 mg/l CaCO<sub>3</sub> Spectroquant®  
H-2K

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Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	ca. 1.01 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

## 9.2 Other data

none

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

See section 10.3

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

### 10.4 Conditions to avoid

no information available

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SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No.	100961
Product name	Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub> Spectroquant® H-2K

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**10.5 Incompatible materials**  
no information available

**10.6 Hazardous decomposition products**  
no information available

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**SECTION 11. Toxicological information**

**11.1 Information on toxicological effects**

**Mixture**

*Acute oral toxicity*

This information is not available.

*Acute inhalation toxicity*

This information is not available.

*Acute dermal toxicity*

This information is not available.

*Skin irritation*

This information is not available.

*Eye irritation*

This information is not available.

*Sensitisation*

This information is not available.

*Germ cell mutagenicity*

This information is not available.

*Carcinogenicity*

This information is not available.

*Reproductive toxicity*

This information is not available.

*Teratogenicity*

This information is not available.

*Specific target organ toxicity - single exposure*

This information is not available.

*Specific target organ toxicity - repeated exposure*

This information is not available.

*Aspiration hazard*

This information is not available.

**11.2 Further information**

Due to the low concentration of the components contained in this product, risks are relatively improbable.

Handle in accordance with good industrial hygiene and safety practice.

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 100961  
Product name Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca  
0.7 - 30.1 °d  
0.9 - 37.6 °e  
1.2 - 53.7 °f  
7 - 301 mg/l CaO  
12 - 537 mg/l CaCO<sub>3</sub> Spectroquant®  
H-2K

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**SECTION 12. Ecological information**

**Mixture**

**12.1 Toxicity**

No information available.

**12.2 Persistence and degradability**

No information available.

**12.3 Bioaccumulative potential**

No information available.

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**12.6 Other adverse effects**

Discharge into the environment must be avoided.

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**SECTION 13. Disposal considerations**

*Waste treatment methods*

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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**14. Transport information**

**Land transport (ADR/RID)**

**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** III  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** yes  
Tunnel restriction code E

**Inland waterway transport (ADN)**

Not relevant

**Air transport (IATA)**

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SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No. 100961  
Product name Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca  
0.7 - 30.1 °d  
0.9 - 37.6 °e  
1.2 - 53.7 °f  
7 - 301 mg/l CaO  
12 - 537 mg/l CaCO<sub>3</sub> Spectroquant®  
H-2K

**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** III  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** no

**Sea transport (IMDG)**

**14.1 UN number** UN 3316  
**14.2 Proper shipping name** CHEMICAL KIT  
**14.3 Class** 9  
**14.4 Packing group** III  
**14.5 Environmentally hazardous** --  
**14.6 Special precautions for user** yes  
EmS F-A S-P

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
Not relevant

THIS TRANSPORT DATA APPLIES TO THE ENTIRE PACK!

**SECTION 15. Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

*EU regulations*

Major Accident Hazard 96/82/EC  
Legislation Directive 96/82/EC does not apply

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1\%$  (w/w).

SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Catalogue No.	100961
Product name	Total Hardness Cell Test Method: photometric 5 - 215 mg/l Ca 0.7 - 30.1 °d 0.9 - 37.6 °e 1.2 - 53.7 °f 7 - 301 mg/l CaO 12 - 537 mg/l CaCO <sub>3</sub> Spectroquant® H-2K

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*National legislation*

Storage class 3

The data applies to the entire pack.

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

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### SECTION 16. Other information

**Full text of H-Statements referred to under sections 2 and 3.**

**Full text of R-phrases referred to under sections 2 and 3**

**Training advice**

Provide adequate information, instruction and training for operators.

**Labelling (67/548/EEC or 1999/45/EC)**

The product does not need to be labelled in accordance with EC directives or respective national laws.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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