

according to Regulations 1907/2006/EC (REACh) and 2015/830/EU

QUANTOFIX Calcium Page: 1/11

Printing date: 17.03.2017 Date of issue: 28.02.2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 **Product identifier**

REF 91324

Product name **QUANTOFIX Calcium**

REACH Registration number(s): see SECTION 3.1/3.2 or
A registration number for the substance(s) does not exist because the annual tonnage does not require registration or

the substance or its use is excluded from registration.

60 x Test strips 1 x 30 mL Ca²⁺ -2 1 x 6 g Ca²⁺ -1

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

Relevant identified uses

Product for analytical use.

Exposure Scenario Classification according REACh, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0

The exposure scenario is integrated into sections 1-16.

If CE labelling: Product for in-vitro-diagnostic use (IVD) or Accessory for medical use

Uses advised against

not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:

MACHEREY-NAGEL GmbH & Co. KG

Neumann-Neander-Str. 6-8, 52355 Dueren, GERMANY

Tel.: +49 2421 969 0 E-mail: msds@mn-net.com

1.4 **Emergency telephone number**

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service. DE: Gemeinsames Giftinformationszentrum (GGIZ) 99089 Erfurt tel. +49 361 730 730

SECTION 2: Hazard identification

2.0 Classification of the complete product

Directive 1999/45/EC

Symbols



R 35

CLP Directive 1272/2008/EC

GHS pictograms







GHS03

GHS05 GHS07

DANGER Signal word

Hazard identification Hazard classes/categories

H272 Ox. Sol. 2

H290 Metal Corrosion cat. 1

H314 Skin Corrosion 1A. Serious Damage to Eyes 1

H315 Skin Irrit. 2 H318 Eye Dam. 1 STOT SE 3 H335

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 REF: 91324
 QUANTOFIX Calcium
 Page: 2/11

 Printing date: 17.03.2017
 Date of issue: 28.02.2017

2.1 Classification of the substance or mixture

Test strips

Directive 1999/45/EC

Symbols do not need labelling as hazardous

CLP Directive 1272/2008/EC

GHS pictograms do not need labelling as hazardous

Signal word

No hazard class

30 mL Ca²⁺ -2

Directive 1999/45/EC

R 35 Symbols

С

CLP Directive 1272/2008/EC

GHS pictograms

GHS05

Signal word DANGER

Hazard identification Hazard classes/categories

H290 Metal Corrosion cat. 1

H314 Skin Corrosion 1A. Serious Damage to Eyes 1

6 g Ca²⁺ -1

Directive 1999/45/EC

R 41

Symbols



ΧI

CLP Directive 1272/2008/EC

GHS pictograms







HS03 GHS0

11303 011303

Signal word DANGER

Hazard identification	Hazard classes/categories
H272	Ox. Sol. 2
H315	Skin Irrit. 2
H318	Eye Dam. 1
H335	STOT SE 3

2.2 Label elements

According 1999/45/EC small amounts of harmful and highly flammable preparations/mixtures have partly/completely exemption from labelling (no symbols F, O, Xn, Xi, N and no R and S phrases are necessary) until $\bf 25-125~mL|g$.

According CLP (GHS) inner packages must be only labelled with symbol(s) and product identificator (EU 1272/2008 Annex I - 1.5.1.2).

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QUANTOFIX Calcium Page: 3/11

Printing date: 17.03.2017 Date of issue: 28.02.2017

Harmful chemicals/mixtures with signal word: WARNING must not be labelled with H and P phrases until 125 mL (EU 1272/2008

Oxidizing mixtures with signal word: DANGER and H272 must not be labelled with H and P phrases until 125 mL.

Test strips

Directive 1999/45/EC

Symbols:

S 22

Do not breathe dust.

CLP Directive 1272/2008/EC

GHS pictograms:

do not need labelling as hazardous

Signal word: -

30 mL Ca2+ -2

Directive 1999/45/EC Symbols:



С

R 35

Causes severe burns.

S 26-37/39-45

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

CLP Directive 1272/2008/EC GHS pictograms:



GHS05

Signal word: DANGER

Causes severe skin burns and eye damage.

P260sh, P280sh, P303+361+353, P305+351+338, P310

Do not breathe dust/vapours. Wear protective gloves/eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor/...

6 g Ca2+ -1

Directive 1999/45/EC Symbols:



R 41

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MACHEREY-NAGEL



Safety Data Sheet

according to Regulations 1907/2006/EC (REACh) and 2015/830/EU

REF: 91324 QUANTOFIX Calcium Page: 4/11

Printing date: 17.03.2017 Date of issue: 28.02.2017

Risk of serious damage to eyes.

S 26-39

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.

CLP Directive 1272/2008/EC GHS pictograms:







GHS03 GHS0

Signal word: DANGER

H318

Causes serious eye damage.

P280sh, P305+351+338, P310

Wear protective gloves/eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor/...

2.3 Other hazards

Possible Hazards from physicochemical Properties

Generally in the case of pH values are less than 2 or higher than 11.5 then it is corrosive. In the case of pH values are less than 5 or higher than 9 then it is irritant.

Information pertaining to particular Risks to Human and possible Symptoms

Causes varying degrees of acid burns on the skin, to the eyes and to the mucous membranes and wounds which do not heal quickly depending on the concentration, temperature and the exposure time. Vapours especially which steam from hot liquids and mist can have a severe irritant effect upon the eyes and the respiratory organs.

Cause after inhalation of vapours/dust, impairments of health when ingested in small quantities.

Information pertaining to particular Risks to the Environment

Avoid contact of substance/mixture to environment.

PBT: not applicable vPvB: not applicable

Other Hazards

SECTION 3: Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

Test strips

Chemical: cellulose CAS No.: 9004-34-6

Concentration: 1 - < 10 %Formula: $(C_6 H_{10} O_5)_n$ REACH Reg. No.: exempt, Annex IV EC No.: 232-674-9RTECS: FJ5691460 TSCA Inventory: listed KE No.: KE-05339

acc. 1999/45/EC: - acc. CLP (GHS): not necessary

Chemical: chemicals/mixture < 1%, no declaration necessary CAS No.: -

Concentration: 0,1 - <1 % KE No.: listed

acc. 1999/45/EC: - acc. CLP (GHS): not necessary

Chemical: *PVC foil (CAS 9002-86-2)*Concentration: 95 - <100 %

CAS No.: -

acc. 1999/45/EC: - acc. CLP (GHS): not necessary

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REF: 91324 QUANTOFIX Calcium Page: 5/11

Printing date: 17.03.2017 Date of issue: 28.02.2017

30 mL Ca²⁺ -2

Chemical: sodium hydroxide solution CAS No.: 1310-73-2

Concentration: 20 - <35 % Formula: NaOH•H₂ O

Pseudonym: soda lye

REACH Reg. No.: 01-2119457892-27-xxxx

EC No.: 215-185-5 Indice No.: 011-002-00-6

RTECS: WB4900000 TSCA Inventory: listed KE No.: KE-31487

acc. 1999/45/EC: R 35 acc. CLP (GHS): H290, H314

6 g Ca²⁺ -1

Chemical: hydrogen peroxide urea CAS No.: 124-43-6

Concentration: 80 - <100 %
Formula: CH₄ N₂ O•H₂ O₂
Pseudonym: Percarbamide
EC No.: 204-701-4
PTECS: VT4860000

RTECS: YT4860000 MFCD: 00013119

TSCA Inventory: listed

KE No.: KE-35147, >17% Toxic 97-1-3

acc. 1999/45/EC: R 37/38-41 acc. CLP (GHS): H272, H315, H318, H335

3.3 Remarks

List of R, H and P phrases: see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice. Remove contaminated clothing. Show product package, packing insert and this material safety data sheet to the doctor.

4.1.1 After SKIN Contact

Remove dust with wetted tissue. Remove contaminated clothing immediately. Rinse the affected skin or mucous membrane thoroughly for min. 15 minutes under running water. (If possible) use soap. Avoid neutralisation. Then apply a loose bandage.

4.1.2 After EYE Contact

Rub dust with teardrops from eyes or: After contact with the eyes rinse thoroughly under running water with the eyelid wide open for min. 10 minutes with eye washing bottle, eye douche or running water (protect intact eye). Before (if possible) apply eye drops Proxymetacaine 0.5%, if the opening the eyelid convulsion is painful. Further treatment to be carried out by an eye specialist.

4.1.3 After INHALATION of Vapours

After inhalation of foam or vapour fresh air should be inhaled. Keep airways free. If vomiting and if insensible place patient in recovery position and keep airways free. After inhalation of dust fresh air should be inhaled.

4.1.4 After ORAL Intake

After oral intake lots of water with activated charcoal supplement should be drunk after it has been ingested. Do not induce vomiting under any circumstances. Do not make any efforts to neutralise it. Contact medical advice for possible consequences.

4.2 Most important symptoms and effects, both acute and delayed

Avoid inhalation of dust. ---

4.3 Indication of any immediate medical attention and special treatment needed

CORROSIVE DAMAGE: After SKIN CONTACT rinse with water for a long time. Efforts to neutralise the substance can frequently make matters worse. Apply glucocorticosteroides following inflammatory reactions. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must to be carried out by an eye specialist. After INTAKE administer aluminium oxide drug suspensions. Administer a prophylaxis to counter pulmonary oedema following the INGESTION of corrosive aerosols. In the event of RESPIRATORY DISTREES ensure that the patient inhales oxygen.

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 REF: 91324
 QUANTOFIX Calcium
 Page: 6/11

 Printing date: 17.03.2017
 Date of issue: 28.02.2017

SECTION 5: Firefighting measures

5.1 Extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

5.2 Special hazards arising from the substance or mixture

Formation of hazardous and caustic vapour-air mixtures possible.

5.3 Advice for firefighters

No, for listed product. Product package burns like paper or plastic. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.

For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.

5.4 Additional Information

Danger for environment only in the event of a large-scale leakage or formation of hazardous substances. ---

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear suitable protective gloves (see 8.2.2). Wear eye protection, respectively face protection. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

6.2 Environmental precautions

not necessary

6.3 Methods and material for containment and cleaning up

Bind any escaping liquid with inert absorbent. And dispose in accordance to local regulations for the disposal of hazardous chemicals. Clean any contaminated equipment and floors with plenty of water.

Collect small amounts of leaked liquid and flush with water into drains.

Collect sitiali amounts of leaked liquid and lius

6.4 Reference to other sections

see information in section 5.4 ---

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for safe storage, including any incompatibilities

The original product package of MACHEREY-NAGEL allows a safe storage.

Storage class (VCI): 5.1I
Water hazard class (DE): 1

7.2.1 Requirements for Stock Rooms and Containers

Keep original product packages tightly closed during handling and storage. Use inbreakable container for transport of glass bottles.

7.3 Specific end use(s)

Product for analytical use.

If CE labelling: Product for in-vitro-diagnostic use (IVD) or Accessory for medical use

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Test strips

Chemical: cellulose CAS No.: 9004-34-6

TRGS 900 (DE): Staub 1.25 A / 4 E mg/m³

SUVA(CH) MAK value: 3 a ppm

NIOSH: TWA 10 (total) / 5 (resp) mg/m³
OSHA: TWA 15 (total) / 5 (resp) mg/m³

Chemical: chemicals/mixture < 1%, no declaration necessary CAS No.: -

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REF: 91324 QUANTOFIX Calcium Page: 7/11

Printing date: 17.03.2017 Date of issue: 28.02.2017

Chemical: PVC foil (CAS 9002-86-2) CAS No.: -

30 mL Ca2+ -2

Chemical: sodium hydroxide solution CAS No.: 1310-73-2

DNEL: 1_{inh} mg/m³

DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): (2 E) mg/m³

E/e respirable

Short-term exposure factor: (=1=, Y)

skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 2 e mg/m³ NIOSH: 2 mg/m³ OSHA: TWA 2 mg/m³

6 g Ca²⁺ -1

Chemical: hydrogen peroxide urea CAS No.: 124-43-6

TRGS 900 (DE): H₂ 0₂ 1 ppm / 1,4 mg/m³ E/e respirable

SUVA(CH) MAK value: H₂ 0₂ 1 ppm / 1,4 mg/m³

8.2 Exposure controls

The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory Protection

No additional recommendations.

8.2.2 Hand Protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC, natural latex, Neopren, or Nitril (f.ex. from Ansell or KCL). Use for short times chemical resistant latex gloves with code EN 374-3 level 1.

8.2.3 Eye Protection

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection or face protection.

8.2.4 Skin Protection

Recommended to avoid clothing damage, and to avoid contamination with these hazards.

8.2.5 Personal Hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test strips

Appearance: solid Color: colored Odor: odorless

30 mL Ca²⁺ -2

Appearance: liquid Color: colourless Odor: odorless

pH: 14
Specific gravity: 1,35 g/mL
Solubility in water: 0-100 %

6 g Ca²⁺ -1

Appearance: powder (solid) Color: colourless Odor: odorless

Melting point: 75-85 instable °C Specific gravity: 1,39 sol. Solubility in water: 0-100 %

9.2 Other information

Relevant Properties of Substance Group

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REF: 91324 QUANTOFIX Calcium Page: 8/11

Printing date: 17.03.2017 Date of issue: 28.02.2017

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No known instability.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Not necessary. ---

10.5 Incompatible materials

Avoid contact with concentrated acids and oxidizing agents. Avoid contact with strong acids or alkalines.

10.6 Hazardous decomposition products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Following information is valid for pure substances. Quantitative data on the toxicity of this product are not available.

Test strips

Chemical: cellulose CAS No.: 9004-34-6

TSCA Inventory: listed California Proposition 65 List: not listed

Exposure Routes: inhalation, skin and/or eye contact Target Organs: Eyes, skin, respiratory system

Symptoms: irritation eyes, skin, mucous membrane

Australia NICNAS: not listed Canada CEPA 1999: DSL yes Japan CSCL/PRTR: not listed Japan PDSCL: not listed Japan ISHL: not listed

 South Korea TCCA:
 not listed

 Korea Exist.Chem.Inventory:
 KE-05339

 LD50_{orl rat}:
 >5000 mg/kg

 LC50_{ihl rat}:
 >58004_h mg/m³

 LD50_{drm rbt}:
 >2000 mg/kg

Chemical: chemicals/mixture < 1%, no declaration necessary CAS No.: -

Korea Exist.Chem.Inventory: listed

Chemical: PVC foil (CAS 9002-86-2) CAS No.: -

30 mL Ca²⁺ -2

Chemical: sodium hydroxide solution CAS No.: 1310-73-2

TSCA Inventory: listed California Proposition 65 List: not listed

Exposure Routes: inhalation, ingestion, skin and/or eye contact

Target Organs: Eyes, skin, respiratory system

Symptoms: irritation eyes, skin, mucous membrane; pneumonitis; eye, skin burns; temporary loss of hair

Australia NICNAS: not listed Canada CEPA 1999: DSL Yes Japan CSCL/PRTR: not listed

Japan PDSCL: not listed Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)

South Korea TCCA: not listed Korea Exist.Chem.Inventory: KE-31487 LD50_{orl rat}: 500_{100%} mg/kg LD50_{orl mus}: 40 mg/kg

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REF: 91324 QUANTOFIX Calcium Page: 9/11

Printing date: 17.03.2017 Date of issue: 28.02.2017

6 g Ca²⁺ -1

Chemical: hydrogen peroxide urea CAS No.: 124-43-6

TSCA Inventory: listed Japan CSCL/PRTR: not listed

Japan PDSCL: Deleterious substance, Japan ISHL: not listed

Korea Exist.Chem.Inventory: KE-35147, >17% Toxic 97-1-3

LD50_{orl rat}: >2000 mg/kg

Acute Effects: Cause after inhalation of vapours/dust, impairments of health when ingested in small quantities.

TRGS 905 (DE): K4, R_F C

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

Test strips

Chemical: cellulose CAS No.: 9004-34-6

Water hazard class (DE): nwg Storage class (VCI): 11

Chemical: chemicals/mixture < 1%, no declaration necessary CAS No.: -

Water hazard class (DE): 1 Storage class (VCI): 12-13

Chemical: PVC foil (CAS 9002-86-2) CAS No.: -

30 mL Ca²⁺ -2

Chemical: sodium hydroxide solution CAS No.: 1310-73-2

Avoid contact of substance/mixture to environment. LC50_{leuciscus} idus/96h: 35-189 mg/L LC50_{fish/96h}: 45.4 mg/L EC50_{daphnia/48h}: >100 mg/L

Water hazard class (DE): 1 WGK No.: 142

Storage class (VCI): 8 E

6 g Ca²⁺ -1

Chemical: hydrogen peroxide urea CAS No.: 124-43-6

Water hazard class (DÉ): 1 WGK No.: (0288_{H2O2})

Storage class (VCI): 5.1 B

12.2 Persistence and degradability

not necessary

12.3 Bioaccumulative potential

not necessary

12.4 Mobility in soil

not necessary

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no additional data available

SECTION 13: Disposal considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06).

13.1 Waste treatment methods

Empty containers of corrosive reagents prior to disposal, rinse with water.

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QUANTOFIX Calcium Page: 10/11

Printing date: 17.03.2017 Date of issue: 28.02.2017

SECTION 14: Transport information

14.1. UN number: 3316 14.2. UN proper shipping name: Chemical Kit

14.3. Class: 14.4. Packing group:

Road transport Classification code: M11 Tunnel restriction code:

Limited Quantity: acc. ADR 3.3.1/251: see LQ in Alternative transport labelling

Air transport

PAX: 960 max. weight PAX: 10 KG max. weight CAO: CAO: 960 10 KG

Maritime transport

EmS: F-A, S-P Storage category: A

Alternative transport labelling follows:

UN No.: (see below) class 8 II, Excepted Quantities (≤30 mL/∑≤500 mL) = ADR/ IATA E2

or

14.2 UN proper shipping name: Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide solution) 14.1 UN number:

F

1 L

30 L

14.3 Class: 14.4 Packing group:

Road transport

Air transport PAX:

Classification code: C5 Limited Quantity:

1 I

Excepted Quantity: E 2

855

851

max. weight PAX: max. weight CAO:

Tunnel restriction code:

CAO: Maritime transport

F-A. S-B Storage category: B FmS:

14.5 **Environmental hazards**

not necessary

14.6 Special precautions for user

not necessary

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory Information

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

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013 German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung GefStoffV), revised on November 2010, according to Directive 98/24/EC

TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated October 2011

15.2 Chemical safety assessment

not necessary for these small amounts

SECTION 16: Other Information

List of R, H and P phrases 16.1

16.1.1 List of relevant R phrases

Causes severe burns. R35

R37/38 Irritating to respiratory system and skin. R41 Risk of serious damage to eyes.

16.1.2 List of relevant H phrases

May intensify fire; oxidizer. H272 H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation. Causes serious eve damage. H318 May cause respiratory irritation. H335

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MACHEREY-NAGEL



Safety Data Sheet

according to Regulations 1907/2006/EC (REACh) and 2015/830/EU

REF: 91324 **QUANTOFIX Calcium** Page: 11/11

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16.1.3 List of relevant P phrases

Keep away from heat/sparks/open flames/hot surfaces. No smoking. P210 P221 Take any precaution to avoid mixing with combustibles... [deleted 2016]

P260sh Do not breathe dust/vapours. P261sh Avoid breathing dust/vapours.

Wear protective gloves/eye protection. P280sh

P303+361+353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to

do. Continue rinsing.
Immediately call a POISON CENTER/doctor/... P310 P390 Absorb spillage to prevent material damage.

P403+233 Store in a well-ventilated place. Keep container tightly closed.

16.2 Training Advice

Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.

16.3 Recommended Restriction on Use

Only for professional user.

Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 JArbSchG)! Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or DE §§ 4 und 5 MuSchRiV)! An individual package of this product or test kit has a moderate hazardous potential.

16.4 **Further Information**

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16.5 Sources of Key Data

Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS

Regulation 487/2013/EU, 4th adaptation of CLP regulation to technical and scientific progress TRGS 900, German engineering rules governing limits in air at work, updated September 2016

SUVA .CH. Limits in air at work 2009, revised on 01,2009

KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU

You find our current versions of MSDS in Internet:

http://www.mn-net.com/MSDS

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