

Safety Data Sheet

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

REF: 91345

QUANTOFIX Arsenic Sensitive

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Printing date: 09.05.2017

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

1.1 Product identifier

REF 91345
 Product name QUANTOFIX Arsenic Sensitive

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.

- 1 x 20 mL As-I
- 1 x 125 g As-II
- 1 x 250 g As-III
- 1 x 100 test sticks Arsenic sensitive

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

You find our current versions of SDS (22 languages) in Internet:

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

SECTION 2: Hazard identification

2.0 Classification of the complete product

Directive 1999/45/EC

Symbols



Xi N
 R 36/38-50/53

R

CLP Directive 1272/2008/EC

GHS pictograms



GHS07 GHS09

Signal word

WARNING

Hazard identification

Hazard classes/categories

H315	Skin Irrit. 2
H319	Eye Irrit. 2
H410	Aquatic Chronic 1
H411	Aquatic Chronic 2
H412	Aquatic Chronic 3

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2.1 Classification of the substance or mixture

20 mL As-I

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 -

Hazard identification	Hazard classes/categories
H411	Aquatic Chronic 2


125 g As-II

Directive 1999/45/EC

Symbols R 36/38

Xi

CLP Directive 1272/2008/EC

GHS pictograms 
GHS07
Signal word WARNING

Hazard identification	Hazard classes/categories
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H412	Aquatic Chronic 3


250 g As-III

Directive 1999/45/EC

Symbols R 50/53

N

CLP Directive 1272/2008/EC

GHS pictograms 
GHS09
Signal word WARNING

Hazard identification	Hazard classes/categories
H410	Aquatic Chronic 1

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Directive 1999/45/EC

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Symbols	-
	do not need labelling as hazardous
<i>CLP Directive 1272/2008/EC</i>	
GHS pictograms	do not need labelling as hazardous
Signal word	-
No hazard class	

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 **25-125 mL**g .

According **CLP (GHS)** inner packages must be only labelled with symbol(s) and product identifier (EU 1272/2008 Annex I - 1.5.1.2). Harmful chemicals/mixtures with signal word: **WARNING** must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2).

20 mL As-I

Directive 1999/45/EC

Symbols:

-

CLP Directive 1272/2008/EC

GHS pictograms:

do not need labelling as hazardous

Signal word: -

125 g As-II

Directive 1999/45/EC

Symbols:



Xi

R 36/38

Irritating to eyes and skin.

S 26-28-61

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water. Avoid release to the environment. Refer to special instructions/Safety data sheets.

CLP Directive 1272/2008/EC

GHS pictograms:



GHS07

Signal word: WARNING

250 g As-III

Directive 1999/45/EC

Symbols:



N

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R 50/53

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S 60-61

This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/Safety data sheets.

CLP Directive 1272/2008/EC

GHS pictograms:



GHS09

Signal word: WARNING

H410

Very toxic to aquatic life with long lasting effects.

P273, P391

Avoid release to the environment. Collect spillage.

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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: -

2.3 Other hazards

Possible Hazards from physicochemical Properties

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

Can accumulate within the body.

Information pertaining to particular Risks to the Environment

Very toxic to aquatic life with long lasting effects. 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

20 mL As-I

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Chemical: *potassium permanganate* CAS No.: 7722-64-7
 Concentration: 2,5 - <5 % Correlation factor: x 0.35 (= %Mn)
 Formula: $KMnO_4$
 REACH Reg. No.: 01-2119480139-34-xxxx
 EC No.: 231-760-3 Indice No.: 025-002-00-9
 RTECS: SD6475000
 TSCA Inventory: listed
 acc. 1999/45/EC: R 51/53 acc. CLP (GHS): H411

125 g As-II

Chemical: *aminosulfonic acid (sulfamic acid)* CAS No.: 5329-14-6
 Concentration: 90 - <100 %
 Formula: H_3NO_3S
 REACH Reg. No.: 01-2119488633-28-xxxx
 EC No.: 226-218-8 Indice No.: 016-026-00-0
 RTECS: WO5950000 MFCD: 0005994x
 TSCA Inventory: listed
 acc. 1999/45/EC: R 36/38-52/53 acc. CLP (GHS): H315, H319, H412

250 g As-III

Chemical: *zinc powder (stabilized)* CAS No.: 7440-66-6
 Concentration: 75 - <95 %
 Formula: Zn
 REACH Reg. No.: 01-2119467174-37-xxxx
 EC No.: 231-175-3 Indice No.: 030-002-01-9
 RTECS: ZG8600000
 TSCA Inventory: listed
 KE No.: KE-35518
 acc. 1999/45/EC: R 50/53 acc. CLP (GHS): H410

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Chemical: *mercury(II) bromide* CAS No.: 7789-47-1
 Concentration: < 0,09 % Correlation factor: x 0.56 (= %Hg)
 Formula: $HgBr_2$
 EC No.: 232-169-3 Indice No.: 080-004-00-7
 RTECS: OV7415000
 TSCA Inventory: listed
 KE No.: KE-23120, Toxic 97-1-140
 acc. 1999/45/EC: - acc. CLP (GHS): not necessary

Chemical: *cellulose* CAS No.: 9004-34-6
 Concentration: 1 - <10 %
 Formula: $(C_6H_{10}O_5)_n$
 REACH Reg. No.: exempt, Annex IV
 EC No.: 232-674-9
 RTECS: FJ5691460
 TSCA Inventory: listed
 KE No.: KE-05339
 acc. 1999/45/EC: - acc. CLP (GHS): not necessary

Chemical: *PVC foil (CAS 9002-86-2)* CAS No.: -
 Concentration: 95 - <100 %
 TSCA Inventory: listed
 acc. 1999/45/EC: - acc. CLP (GHS): not necessary

3.3 Remarks

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



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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.

4.1.1 After SKIN Contact

Remove dust with wetted tissue. Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

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 with eye washing bottle, eye douche or running water (protect intact eye).

4.1.3 After INHALATION of Vapours

After inhalation of foam or vapour fresh air should be inhaled. Keep airways free. After inhalation of dust fresh air should be inhaled.

4.1.4 After ORAL Intake

After oral intake lots of water should be drunk after it has been ingested.

4.2 Most important symptoms and effects, both acute and delayed

Avoid inhalation of dust. Can accumulate within the body. ---

4.3 Indication of any immediate medical attention and special treatment needed

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.

5.4 Additional Information

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Regular staff training is necessary.

6.2 Environmental precautions

not necessary, contains only small amounts of these substances

6.3 Methods and material for containment and cleaning up

Bind any escaping liquid with inert absorbent. Collect small amounts of leaked liquid and flush with water into drains.

6.4 Reference to other sections

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): 5.1B

Water hazard class (DE): 3

7.2.1 Requirements for Stock Rooms and Containers

Keep original product packages tightly closed during handling and storage.

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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

20 mL As-I

Chemical: *potassium permanganate*

CAS No.: 7722-64-7

DNEL: 0.218_{inh} mg/m³

DNEL = Derived No-Effect Level (for workers)

EU value: [TWA] 0.2E_{Mn} / 0.05A_{Mn} mg/m³

TRGS 900 (DE): 0.02_{Mn A}; 0.2_{Mn E} mg/m³
E/e respirable

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

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

TRGS 903 (DE): 15 µg/L

B blood, U urine

NIOSH: TWA 1 / ST 3_{Mn} mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: C 5_{Mn} mg/m³

125 g As-II

Chemical: *aminosulfonic acid (sulfamic acid)*

CAS No.: 5329-14-6

DNEL: [inh] 70,5 mg/m³

DNEL = Derived No-Effect Level (for workers)

250 g As-III

Chemical: *zinc powder (stabilized)*

CAS No.: 7440-66-6

DNEL: 1_{inh} mg/m³

DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): 0.1A / 2E mg/m³

E/e respirable

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Chemical: *mercury(II) bromide*

CAS No.: 7789-47-1

EU value: 0.02_{Hg e} mg/m³

TRGS 900 (DE): 0,02_{Hg E} mg/m³
E/e respirable

Short-term exposure factor: 8 (II), H, Sh

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

SUVA(CH) MAK value: 0,1 e mg/m³

SUVA(CH) BAT value: Krea U/d 35 µg/L

TRGS 903 (DE): U/a 25_{Kreatinin} µg/g
B blood, U urine

NIOSH: Hg Vapor: TWA_{skin} 0.05; other 0.1 mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: TWA 0.1 mg/m³

Chemical: *cellulose*

CAS No.: 9004-34-6

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

E/e respirable

SUVA(CH) MAK value: 3 a ppm

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

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: TWA 15 (total) / 5 (resp) mg/m³

Chemical: *PVC foil (CAS 9002-86-2)*

CAS No.: -

8.2 Exposure controls

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

8.2.1 Respiratory Protection

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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.
- 8.2.4 Skin Protection**
Recommended.
- 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

20 mL As-I		
Appearance: liquid	Colour: colored	Odor: odorless
125 g As-II		
Appearance: solid	Colour: colourless	Odor: odorless
pH:	< 2	
Melting point:	instable 205 °C	
Vapour pressure (20°C):	0.0078 hPa	
Specific gravity:	2.12 sol. g/cm ³	
Solubility in water:	0-17 %	
Volatiles by volume:	0.031 mg/m ³	
250 g As-III		
Appearance: powder (solid)	Colour: slightly grey	Odor: odorless
100 test sticks Arsenic sensitive		
Appearance: solid	Colour: white	Odor: odorless

9.2 Other information

Relevant Properties of Substance Group

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.

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.

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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.

20 mL As-I

Chemical:	<i>potassium permanganate</i>	CAS No.:	7722-64-7
TSCA Inventory:	listed		
Exposure Routes:	inhalation, ingestion		
Target Organs:	respiratory system, central nervous system, blood, kidneys		
Symptoms:	Manganism; asthenia, insomnia, mental confusion; metal fume fever: dry throat, cough, chest tightness, dyspnea (breathing difficulty), rales, flu-like		
Japan CSCL/PRTR:	PRTR: $\geq 1,0\%$ Mn class I		
Japan PDSCL:	not listed	Japan ISHL:	listed $\geq 1,0\%$ / $\geq 0,1\%$
LD50 _{orl rat} :	750 mg/kg		
LC _{Loworl hmn} :	100 mg/kg		

125 g As-II

Chemical:	<i>aminosulfonic acid (sulfamic acid)</i>	CAS No.:	5329-14-6
TSCA Inventory:	listed		
Target Organs:	affect the eye or visual capacity		
Symptoms:	conjunctivitis; corneal damage		
LD50 _{orl rat} :	3160 mg/kg		
LD50 _{orl gpg} :	1050 mg/kg		
LD50 _{orl mus} :	1312 mg/kg		

250 g As-III

Chemical:	<i>zinc powder (stabilized)</i>	CAS No.:	7440-66-6
TSCA Inventory:	listed		
Korea Exist.Chem.Inventory:	KE-35518		
LD50 _{orl rat} :	>2000 mg/kg		
LC _{Lowinh hmn} :	124 _{50min} mg/m ³		
LC50 _{ihl rat} :	>5.4 _{4h} mg/m ³		

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Chemical:	<i>mercury(II) bromide</i>	CAS No.:	7789-47-1
TSCA Inventory:	listed	California Proposition 65 List:	listed developmental
Exposure Routes:	inhalation, skin absorption, ingestion, skin and/or eye contact		
Target Organs:	Eyes, skin, respiratory system, central nervous system, kidneys		
Symptoms:	irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headac		
Japan CSCL/PRTR:	PRTR: $\geq 1,0\%$ Hg class I		
Japan PDSCL:	Poisonous substance	Japan ISHL:	listed $\geq 0,3\%$ / $\geq 0,1\%$
Korea Exist.Chem.Inventory:	KE-23120, Toxic 97-1-140		
LD50 _{orl rat} :	40 mg/kg		
LC _{Lowskn rbt} :	41 mg/kg		
LD50 _{drm rat} :	100 mg/kg		

TRGS 907 (DE): Sh

Chemical:	<i>cellulose</i>	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} :	>5800 _{4h} mg/m ³		
LD50 _{drm rbt} :	>2000 mg/kg		

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Chemical: *PVC foil (CAS 9002-86-2)*
TSCA Inventory: listed

CAS No.: -

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

20 mL As-I

Chemical: *potassium permanganate* CAS No.: 7722-64-7
Toxic to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
LC50_{fish/96h}: 3.6 mg/L
Water hazard class (DE): 3 WGK No.: 1936
Storage class (VCI): 5.1 B

125 g As-II

Chemical: *aminosulfonic acid (sulfamic acid)* CAS No.: 5329-14-6
Harmful to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
Water hazard class (DE): 1 WGK No.: 1266
Storage class (VCI): 8 B

250 g As-III

Chemical: *zinc powder (stabilized)* CAS No.: 7440-66-6
Very toxic to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.
Environmental hazards must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).
LC50_{fish/96h}: 2.01 mg/L
EC50_{daphnia/48h}: 0.131 mg/L
EC50_{pseudokirchneriella subcapitata/72h}: IC50: 0.713 mg/L
Water hazard class (DE): 2 WGK No.: 7325
Storage class (VCI): 13

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Chemical: *mercury(II) bromide* CAS No.: 7789-47-1
Bio Toxicity: LC50: 0.5_{HgCl2/48h} mg/m³
Water hazard class (DE): 3 WGK No.: 0398
Storage class (VCI): 6.1 B

Chemical: *cellulose* CAS No.: 9004-34-6
Water hazard class (DE): nwg
Storage class (VCI): 11

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

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

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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

SECTION 14: Transport information

14.1 - 14.4: No dangerous goods according the transport regulations

14.5 Environmental hazards

not necessary, contains only small amounts of these substances

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

16.1 List of R, H and P phrases

16.1.1 List of relevant R phrases

R36/38	Irritating to eyes and skin.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

16.1.2 List of relevant H phrases

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

16.1.3 List of relevant P phrases

P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.
P391	Collect spillage.

16.2 Training Advice

Multiple safety training of staffs about danger and protection by using hazards in working area.

16.3 Recommended Restriction on Use

Only for professional user.
 An individual package of this product or test kit has a moderate hazardous potential.

16.4 Further Information

MACHEREY-NAGEL GmbH & Co. KG provides the information contained herein in good faith being up-to-date of own realizations at revision time. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose.

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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