

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 28.05.2014

Date of issue: 24.04.2014

Page: 1/9

1 Identification of the Substance/Mixture and of the Company

1.1 Product identifier

REF 91307
 Product name QUANTOFIX Aluminium / 100
 1 x 30 mL Aluminium-1
 1 x 30 mL Aluminium-2
 1 x 100 test strips

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

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.

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

Missing subsections are not relevant for the risk assessment of the product and may be omitted programmatically.

2 Hazard Identification

2.1 Classification of the substance(s) or mixture(s) - in the complete product

Directive 1999/45/EC
 Symbols



C
 R 35

R

CLP Directive 1272/2008/EC
 GHS pictograms



GHS05



GHS07

Signal word

DANGER

Hazard identification

Hazard classes/categories

H302	Acute Tox. 4 oral
H314	Skin Corrosion 1A. Serious Damage to Eyes 1
H315	Skin Irritation cat. 2
H319	Eye Irritation cat. 2

2.2 Hazard Description

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.

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 28.05.2014

Date of issue: 24.04.2014

Page: 2/9

Information pertaining to particular Risks to the Environment

--- Avoid contact of substance/mixture to environment. ---

Other Hazards

2.3 Other hazards: Description of the components

30 mL Aluminium-1

Directive 1999/45/EC

Symbols

R 35



C

CLP Directive 1272/2008/EC

GHS pictograms



GHS05 GHS07

Signal word

DANGER

Hazard identification

H302
H314

Hazard classes/categories

Acute Tox. 4 oral
Skin Corrosion 1A. Serious Damage to Eyes 1

30 mL Aluminium-2

Directive 1999/45/EC

Symbols

R 36/38



Xi

CLP Directive 1272/2008/EC

GHS pictograms



GHS07

Signal word

WARNING

Hazard identification

H315
H319

Hazard classes/categories

Skin Irritation cat. 2
Eye Irritation cat. 2

100 test strips

Directive 1999/45/EC

Symbols

-
do not need labelling as hazardous

CLP Directive 1272/2008/EC

GHS pictograms

Signal word

do not need labelling as hazardous
do not need labelling as hazardous

No hazard class

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 28.05.2014

Date of issue: 24.04.2014

Page: 3/9

3 Composition/Information on Ingredients

3.1 Substances or 3.2 Mixtures

30 mL Aluminium-1

Chemical:	<i>potassium hydroxide solution</i>	CAS No.:	1310-58-3
Concentration:	14 - 55 %		
Formula:	KOH·H ₂ O		
REACH Reg. No.:	01-2119487136-33-xxxx		
EC No.:	215-181-3	Indice No.:	019-002-00-8
RTECS:	TT2100000		
TSCA Inventory:	listed		
acc. 1999/45/EC:	R 35	acc. CLP (GHS):	H302, H314

30 mL Aluminium-2

Chemical:	<i>acetic acid</i>	CAS No.:	64-19-7
Concentration:	10 - 25 %		
Formula:	C ₂ H ₄ O ₂		
REACH Reg. No.:	01-2119475328-30-xxxx		
EC No.:	200-580-7	Indice No.:	607-002-00-6
RTECS:	AF1225000	MFCD:	00036152
TSCA Inventory:	listed		
acc. 1999/45/EC:	R 36/38	acc. CLP (GHS):	H315, H319

100 test strips

Chemical:	<i>cellulose</i>	CAS No.:	9004-34-6
Concentration:	1 - 10 %		
Formula:	(C ₆ H ₁₀ O ₅) _n		
REACH Reg. No.:	exempt, Annex IV		
EC No.:	232-674-9		
RTECS:	FJ5691460		
TSCA Inventory:	listed		
acc. 1999/45/EC:	-	acc. CLP (GHS):	not necessary

Chemical:	<i>chemicals/mixture < 1%, no declaration necessary</i>	CAS No.:	-
Concentration:	0,1 - 1 %		
acc. 1999/45/EC:	-	acc. CLP (GHS):	not necessary

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

3.2 Remarks

List of R and H phrases: see chapter 16

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.

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 28.05.2014

Date of issue: 24.04.2014

Page: 4/9

4.2 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 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 DISTRESSES ensure that the patient inhales oxygen.

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

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

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 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.

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 (German chemical industry): see chapter 12.1

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.

8 Exposure Controls/Personal Protection

8.1 Control parameters

30 mL Aluminium-1

Chemical: *potassium hydroxide solution*

CAS No.: 1310-58-3

SUVA(CH) MAK value: 2 e mg/m³

Australia NICNAS: not listed

Canada CEPA 1999: DSL Yes

Japan CSCL/PRTR: not listed

Japan PDSC: Deleterious Substance Yes

Japan ISHL: Article 57-2 (SDS required)

South Korea TCCA: not listed

TSCA Inventory: listed

California Proposition 65 List: not listed

NIOSH: not listed

OSHA: not listed

30 mL Aluminium-2

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 28.05.2014

Date of issue: 24.04.2014

Page: 5/9

Chemical: *acetic acid* CAS No.: 64-19-7
 EU value: 10 ppm / 25 mg/m³
 TRGS 900 (DE): 10 mL/m³ / 25 mg/m³
 E/e respirable
 Short-term exposure factor: 2(l), Y
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
 SUVA(CH) MAK value: 10 ppm / 25 mg/m³
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
 Japan CSCL/PRTR: not listed Japan ISHL: Article 57-2 (SDS required)
 Japan PDSCL: not listed
 South Korea TCCA: not listed California Proposition 65 List: not listed
 TSCA Inventory: listed
 NIOSH: not listed
 OSHA: not listed

100 test strips
 Chemical: *cellulose* CAS No.: 9004-34-6
 TRGS 900 (DE): Staub 4 E mg/m³
 E/e respirable
 SUVA(CH) MAK value: 3 a ppm
 Australia NICNAS: not listed Canada CEPA 1999: DSL ppm
 Japan CSCL/PRTR: not listed Japan ISHL: not listed
 Japan PDSCL: not listed California Proposition 65 List: not listed
 South Korea TCCA: not listed
 TSCA Inventory: listed
 NIOSH: not listed
 OSHA: not listed

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

Only if additional recommendations in test instruction or packing insert.

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.

9 Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

30 mL Aluminium-1
 Color: colourless Odor: odorless Appearance: liquid
30 mL Aluminium-2
 Color: colourless Odor: acetic Appearance: liquid
100 test strips
 Color: colored Odor: odorless Appearance: solid

9.2 Other information

9.2.1 Safety relevant Basis Data

30 mL Aluminium-1
 pH: 14
 Specific gravity: 1,51 g/mL
 Solubility in water: 0-100 %

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 28.05.2014

Date of issue: 24.04.2014

Page: 6/9

30 mL Aluminium-2
 pH: 2-3
 Specific gravity: 1,03 g/mL
 Solubility in water: 0-100 %

100 test strips

9.2.2 Relevant Properties of Substance Group

9.3 Additional Information

not necessary

10 Stability and Reactivity

10.1 Conditions to avoid

If on label. When indicated in packing insert.

10.2 Incompatible materials

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

10.3 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.

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.

30 mL Aluminium-1

Chemical: *potassium hydroxide solution* CAS No.: 1310-58-3
 LD50_{orl rat}: 273

30 mL Aluminium-2

Chemical: *acetic acid* CAS No.: 64-19-7
 LD50_{orl rat}: 3310 mg/kg
 LC_{Low}_{orl rat}: 16000_{4h} mg/m³
 LC_{Low}_{orl rbt}: 1200 mg/kg
 LC50_{ihl mus}: 5620 ppm/1h
 LD50_{drm rbt}: 1060 mg/kg
 LD50_{oral mouse}: 4960 mg/kg

100 test strips

Chemical: *cellulose* CAS No.: 9004-34-6
 LD50_{orl rat}: >5000 mg/kg
 LC50_{ihl rat}: >5800_{4h} mg/m³
 LD50_{drm rbt}: >2000 mg/kg

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

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

12 Ecological information

12.1 Toxicity

Following information is valid for pure substances.

30 mL Aluminium-1

Chemical: *potassium hydroxide solution* CAS No.: 1310-58-3
 LC50_{pimephales promelas/96h}: 880 mg/L
 WGK (DE): 1 WGK No.: 0345
 Storage class (VCI): 8 B

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 28.05.2014

Date of issue: 24.04.2014

Page: 7/9

30 mL Aluminium-2

Chemical:	<i>acetic acid</i>	CAS No.:	64-19-7
LC50 _{fish/96h} :	75 mg/L		
EC50 _{daphnia/48h} :	>300,82 mg/L		
EC10 _{pseudomonas putita/16h} :	2850 mg/L		
WGK (DE):	1	WGK No.:	0093
Dispersion coefficient (o-w):	-0,17		
Storage class (VCI):	3		

100 test strips

Chemical:	<i>cellulose</i>	CAS No.:	9004-34-6
WGK (DE):	nwg		
Storage class (VCI):	11		
Chemical:	<i>chemicals/mixture < 1%, no declaration necessary</i>	CAS No.:	-
WGK (DE):	1		
Chemical:	<i>PVC foil (CAS 9002-86-2)</i>	CAS No.:	-

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.

14 Transport Information

14.1 UN No.:	3316	14.2 Proper shipping name:	Chemical Kit
14.3 Class:	9	14.4 Packing group:	II

Road transport
 Classification code: M11 Tunnel restriction code: E
 Limited Quantity: LQ 0 (acc. ADR 3.3.1/251: see LQ in Alternative Transport Labelling)

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

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

Alternative Transport Labelling follows:

Class 8 II, **excepted quantities** ($\leq 30 \text{ mL} / \Sigma \leq 500 \text{ mL}$) = ADR/ IATA E2

14.1 UN No.:	3266	14.2 Proper shipping name:	Corrosive liquid, basic, inorganic, n.o.s. (potassium hydroxide solution)
14.3 Class:	8	14.4 Packing group:	II

Road transport
 Classification code: C5
 Limited Quantity: LQ22 Tunnel restriction code: E
 Excepted Quantity: E 2

Air transport
 PAX: 851 max. weight PAX: 1 L
 CAO: 855 max. weight CAO: 30 L

Maritime transport
 EmS: F-A, S-B Storage category: B

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
 Announcement BekGS 220 (DE), Safety Data Sheet, June 2013

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**.

www.mn-net.com



MACHERY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6-8 · 52355 Düren · Germany

Germany and international:
 Tel.: +49 24 21 969-0
 Fax: +49 24 21 969-199
 E-mail: info@mn-net.com

Switzerland:
MACHERY-NAGEL AG
 Tel.: +41 62 388 55 00
 Fax: +41 62 388 55 05
 E-mail: sales-ch@mn-net.com

France:
MACHERY-NAGEL EURL
 Tel.: +33 388 68 22 68
 Fax: +33 388 51 76 88
 E-mail: sales-fr@mn-net.com

USA:
MACHERY-NAGEL Inc.
 Tel.: +1 484 821 0984
 Fax: +1 484 821 1272
 E-mail: sales-us@mn-net.com

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 28.05.2014

Date of issue: 24.04.2014

Page: 8/9

According **GHS** inner packages must be only labelled with symbol(s) and product identifier.

Harmful chemicals/mixtures with signal word: **WARNING** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL or 125 g**.

30 mL Aluminium-1

Directive 1999/45/EC

Symbols:



C

R 35

Causes severe burns.

S 26-36/37/39-45

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

CLP Directive 1272/2008/EC

GHS pictograms:



GHS05



GHS07

Signal word: DANGER

H314

Causes severe skin burns and eye damage.

P260D, P280sh, P301+330+331, P303+361+353, P304+340, P305+351+338, P501

Do not breathe vapours. Wear protective gloves/eye protection. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF INHALED: Remove

person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Dispose of contents/container to regulated waste

treatment.

30 mL Aluminium-2

Directive 1999/45/EC

Symbols:



Xi

R 36/38

Irritating to eyes and skin.

S 23-26-45

Do not breathe vapour. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. 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:



GHS07

Material Safety Data Sheet

according to Directive 1907/2006/EC (REACH) and 453/2010/EU

Printing date: 28.05.2014

Date of issue: 24.04.2014

Page: 9/9

Signal word: WARNING

100 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: -

15.2 Chemical safety assessment not necessary for these small amounts

16 Other Information

16.1 List of R and H phrases

16.1.1 List of relevant R phrases

R35 Causes severe burns.
R36/38 Irritating to eyes and skin.

16.1.2 List of relevant H phrases

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.

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

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.

MACHEREY-NAGEL GmbH & Co. KG makes NO REPRESENTATIONS or WARRANTIES, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly MACHEREY-NAGEL GmbH & Co. KG will not be responsible for damages resulting from use of or reliance upon this information. See terms and conditions at the end of our price lists for additional information.

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 July 2012

SUVA .CH, Limits in air at work 2009, revised on 01.2009

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

16.6. Revisions/Updates

Reason for Revision: 2014-02 Corrected structure of sections acc. regulation 453/2010/EU, if necessary

2014-04 Adaptation of regulation 487/2013/EU

You find our current versions of MSDS in Internet:

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