

Safety Data Sheet

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

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

1.1 Product identifier

REF 91320
 Product name QUANTOFIX Phosphate

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 100 test strips
 1 x 30 mL PO₄³⁻-2
 1 x 30 mL PO₄³⁻-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: sds@mn-net.com (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/SDS>

SECTION 2: Hazard identification

2.0 Classification of the complete product



GHS05 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1
H314	Skin Corr. 1A
H332	Acute Tox. 4 inh.

2.1 Classification of the substance or mixture

100 test strips

Signal word Do not need labelling as hazardous
 -

No hazard class

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30 mL PO₄³⁻ -2

Signal word: Do not need labelling as hazardous
 -
 No hazard class

30 mL PO₄³⁻ -1



Signal word: DANGER

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1
H314	Skin Corr. 1A
H332	Acute Tox. 4 inh.

2.2 Label elements

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

Metal corrosive solutions **do not have to** be labelled with GHS symbol, signal word, H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2.1.3).

100 test strips

Do not need labelling as hazardous
 Signal word: -

30 mL PO₄³⁻ -2

Do not need labelling as hazardous
 Signal word: -

30 mL PO₄³⁻ -1



Signal word: DANGER

H314
 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.

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. ---

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 impairments of health when ingested in small quantities. -

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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

100 test strips

Chemical:	<i>cellulose</i>	CAS No.:	9004-34-6
Classification:	No criteria for classification or naming of chemical not required.		
Formula:	$(C_6H_{10}O_5)_n$		
TSCA Inventory:	listed		
REACH Reg. No.:	exempt, Annex IV		
EC No.:	232-674-9		
RTECS:	FJ5691460		
KE No.:	KE-05339		
Concentration:	1 - <10 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

Chemical:	<i>chemicals/mixture < 1%</i>	CAS No.:	-
Classification:	No criteria for classification or naming of chemical not required.		
TSCA Inventory:	all listed, <1%		
KE No.:	listed		
Concentration:	0,1 - <1 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

Chemical:	<i>PVC foil (CAS 9002-86-2)</i>	CAS No.:	-
Classification:	No criteria for classification or naming of chemical not required.		
TSCA Inventory:	listed		
Concentration:	95 - <100 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

30 mL PO₄³⁻ -2

30 mL PO₄³⁻ -1

Chemical:	<i>nitric acid</i>	CAS No.:	7697-37-2
Classification:	H272, Ox. Liq. 2, H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh.		
Formula:	HNO ₃ · H ₂ O		
Pseudonym:	Aqua fortis, Engravers acid, hydrogen nitrate		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119487297-23-xxxx		
EC No.:	231-714-2	Indice No.:	007-004-00-1
RTECS:	QU5900000/QU5775000		
KE No.:	KE-25911, >10% Toxic 97-1-246, Acc. Precaution Chem.		
Concentration:	13 - <20 %		
acc. CLP (GHS):	H290, Met. Corr. 1, H314, Skin Corr. 1B, H332, Acute Tox. 4 inh.		

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of H and P phrases: see section 16.1

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

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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

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 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. ---

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.

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.

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7.2 Conditions for safe storage, including any incompatibilities

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

Storage class (VCI): 8B
 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

100 test strips

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: chemicals/mixture < 1% CAS No.: -

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

30 mL PO₄³⁻ -2

30 mL PO₄³⁻ -1

Chemical: nitric acid CAS No.: 7697-37-2

DNEL: [inh] (1.3) mg/m³
 DNEL = Derived No-Effect Level (for workers)

PNEC_(fresh water): no hazard identified
 PNEC = Predicted No Effect Concentration

EU value: 1 ppm / 2.6 mg/m³

TRGS 900 (DE): 1 ppm / 2.6 mg/m³
 E/e respirable

Short-term exposure factor: -
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 2 ppm / 5 mg/m³

NIOSH: [TWA] 2 ppm / 5 mg/m³

NIOSH STEL: 4 ppm / 10 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: List of highly hazardous chemicals, toxics and reactives Yes (TQ = 500 lbs) n/a; [TWA] 2 ppm / 5 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.

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Chemical: *chemicals/mixture < 1%* CAS No.: -
 TSCA Inventory: all listed, <1%
 Korea Exist.Chem.Inventory: listed

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

30 mL PO₄³⁻ -2

30 mL PO₄³⁻ -1

Chemical: *nitric acid* CAS No.: 7697-37-2
 TSCA Inventory: listed California Proposition 65 List: not listed
 Exposure Routes: inhalation, ingestion, skin and/or eye contact
 Target Organs: Eyes, skin, respiratory system, teeth
 Symptoms: irritation eyes, skin, mucous membrane; delayed pulmonary edema, pneumonitis, bronchitis; dental erosion
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
 Japan CSCL/PRTR: not listed, Japan PDSC: Deleterious Substance
 Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)
 South Korea TCCA: Accident Precaution Chemical Yes
 Korea Exist.Chem.Inventory: KE-25911, >10% Toxic 97-1-246, Acc. Precaution Chem.
 LC₅₀oral hm: [NOAEC] 1500 mg/kg
 LC50_{ihl} rat: [4h] 2.65 mg/L
 Acute Effects: Cause after skin contact, impairments of health when ingested in small quantities.
 TRGS 905 (DE): Rf D

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

100 test strips

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

Chemical: *chemicals/mixture < 1%* CAS No.: -
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

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

30 mL PO₄³⁻ -2

30 mL PO₄³⁻ -1

Chemical: *nitric acid* CAS No.: 7697-37-2
 Avoid contact of substance/mixture to environment.
 PNEC(fresh water): no hazard identified
 PNEC = Predicted No Effect Concentration
 LC50_{daphnia magna/48h}: 180 mg/L
 LC50_{fish/96h}: [4d] 12 g/L
 Water hazard class (DE): 1 WGK No.: 0414
 Storage class (VCI): 8 B

12.2 Persistence and degradability

not necessary

12.3 Bioaccumulative potential

not necessary

12.4 Mobility in soil

not necessary



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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

SECTION 14: Transport information

14.1. UN number: 3316 **14.2. UN 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: acc. ADR 3.3.1/251: see LQ in Alternative declaration for transportation

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

Or use **Alternative declaration for transportation:**

UN No.: (see below) class 8 II, **Excepted Quantities** (≤ 30 mL/ $\Sigma \leq 500$ mL) = ADR/ IATA E2

or

14.1 UN number: 3264 **14.2 UN proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid solution)**

14.3 Class: 8 **14.4 Packing group: II**

Road transport

Classification code: C1

Limited Quantity: 1 L 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

14.5 Environmental hazards

none

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

MN Leaflet/User manual, also see www.mn-net.com

Look for your country-specific regulations.

15.2 Chemical safety assessment

not necessary for these small amounts ---

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SECTION 16: Other information

16.1 List of H and P phrases

16.1.1 List of relevant H phrases

H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.

16.1.2 List of relevant P phrases

P260sh Do not breathe dust/vapours.
P261sh Avoid breathing dust/vapours.
P280sh Wear protective gloves/eye protection.
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.
P310 Immediately call a POISON CENTER/doctor.
P390 Absorb spillage to prevent material damage.

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 for DE §§ 11-13 MuSchG 2017)!
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
Regulation 669/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
TRGS 900, German engineering rules governing limits in air at work, updated 03/2018
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