Safety Data Sheet

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

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

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
Valencienner Str. 11, 52355 Düren, 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



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

2.1 Classification of the substance or mixture

125 g As-II

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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



GHS09

Signal word WARNING

Hazard identification	Hazard classes/categories
H410	Aquatic Chronic 1

100 test sticks Arsenic sensitive

Do not need labelling as hazardous

Signal word -

No hazard class



GHS09

Signal word Do not need labelling as hazardous

Hazard identification	Hazard classes/categories
H411	Aquatic Chronic 2

2.2 Label elements

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

125 g As-II



GHS07

Signal word: WARNING

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H412
Harmful to aquatic life with long lasting effects.

250 g As-III



GHS09

Signal word: WARNING

H410
Very toxic to aquatic life with long lasting effects.

P273
Avoid release to the environment.

100 test sticks Arsenic sensitive

Do not need labelling as hazardous
Signal word: -



GHS09

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

125 g As-II

Chemical:	*aminosulfonic acid (sulfamic acid)*		CAS No.: 5329-14-6
Classification:	H315, Skin Irrit. 2, H319, Eye Irrit. 2, H412, Aquatic Chronic 3		
Formula:	H_3NO_3S; NH_2 -SO_3H		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119488633-28-xxxx		
EC No.:	226-218-8	Indice No.:	016-026-00-0
RTECS:	WO5950000	MFCD:	0005994x
Concentration:	90 - <100 %		
acc. CLP (GHS):	H315, Skin Irrit. 2, H319, Eye Irrit. 2, H412, Aquatic Chronic 3		

250 g As-III

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ISO 9001 CERTIFIED

Chemical: *zinc powder (stabilizied)* CAS No.: 7440-66-6
Classification: H410, Aquatic Chronic 1
Formula: Zn
TSCA Inventory: listed
REACH Reg. No.: 01-2119467174-37-xxxx
EC No.: 231-175-3 Indice No.: 030-002-01-9
RTECS: ZG8600000
KE No.: KE-35518
Concentration: 75 - <95 %
acc. CLP (GHS): H410, Aquatic Chronic 1

100 test sticks Arsenic sensitive

Chemical: *mercury(II) bromide* CAS No.: 7789-47-1
Classification: No criteria for classification or naming of chemical not required.
Formula: $HgBr_2$
TSCA Inventory: listed
EC No.: 232-169-3 Indice No.: 080-004-00-7
RTECS: OV7415000
KE No.: KE-23120, Toxic 97-1-140
Concentration: < 0.10 % Correlation factor: x 0.56 (= %Hg)
The classification refers to weight percent of the metal (according to CLP Regulation 2008/1272/EC Annex VI, 1.1.3.2 Note 1)
acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *cellulose* CAS No.: 9004-34-6
Classification: No criteria for classification or naming of chemical not required.
Formula: $(C_6 H_{10} O_5)_n$
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: *PVC foil (CAS 9002-86-2)* 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.

Chemical: *potassium permanganate* CAS No.: 7722-64-7
Classification: H272, Ox. Liq. 2, H302, Acute Tox. 4 oral, H314, Skin Corr. 1B, H410, Aquatic Chronic 1
Formula: $KMnO_4$
TSCA Inventory: listed
REACH Reg. No.: 01-2119480139-34-xxxx
EC No.: 231-760-3 Indice No.: 025-002-00-9
RTECS: SD6475000
Concentration: 2.5 - <5 % Correlation factor: x 0.35 (= %Mn)
The classification refers to weight percent of the metal (according to CLP Regulation 2008/1272/EC Annex VI, 1.1.3.2 Note 1)
acc. CLP (GHS): H411, Aquatic Chronic 2

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.

4.1.1 After SKIN Contact

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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
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.

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

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

125 g As-II
Chemical: *aminosulfonic acid (sulfamic acid)* CAS No.: 5329-14-6
DNEL: [derm] 10 mg/kg bw/d; [inh] 70,5 mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 1.8 mg/L
PNEC = Predicted No Effected Concentration

250 g As-III
Chemical: *zinc powder (stabilizied)* 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

100 test sticks Arsenic sensitive
Chemical: *mercury(II) bromide* CAS No.: 7789-47-1
EU value: [Hg] 0.02 e mg/m³
TRGS 900 (DE): [Hg] 0,02 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: [Hg][MAK] 0,02 e/[STEL] 0,16 e mg/m³
SUVA(CH) BAT value: [Krea U/d] 35 µg/L
TRGS 903 (DE): [$U/a_{Kreatinin}$] 25 µg/g
B blood, U urine, a no limitation, b end of exposition or shift
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.: -

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, a no limitation, b end of exposition or shift
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

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

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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

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/cm³	
Solubility in water:	0-17 %	
Volatiles by volume:	0.031 mg/m³	

250 g As-III

Appearance: powder (solid)	Colour: slightly grey	Odor: odorless

100 test sticks Arsenic sensitive

Appearance: solid	Colour: white	Odor: odorless
Appearance: liquid	Colour: colored	Odor: odorless

9.2 Other information

Relevant Properties of Substance Group

SECTION 10: Stability and reactivity

10.1 Reactivity
no further data available.

10.2 Chemical stability
No known instability.

10.3 Possibility of hazardous reactions
No further 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.

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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.

125 g As-II

Chemical: *aminosulfonic acid (sulfamic acid)* CAS No.: 5329-14-6
TSCA Inventory: listed
Target Organs: affect the eye or visual capacity
Symptoms: conjunctivitis; corneal damage
$LD50_{orl\ rat}$: 2065 mg/kg
$LC50_{drm\ rbt}$: 2000 mg/m³

250 g As-III

Chemical: *zinc powder (stabilizied)* CAS No.: 7440-66-6
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-35518
$LD50_{orl\ rat}$: >2000 mg/kg
$LC_Low_{inh\ hmn}$: 124_{50min} mg/m³
$LC50_{ihl\ rat}$: $>5.4_{4h}$ mg/m³

100 test sticks Arsenic sensitive

Chemical: *mercury(II) bromide* 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: ≥1,0%Hg class I, Japan PDSCL: Poisonous substance
Japan ISHL: listed ≥0,3%/≥0,1%
Korea Exist.Chem.Inventory: KE-23120, Toxic 97-1-140
$LD50_{orl\ rat}$: 40 mg/kg
$LC_Low_{skn\ rbt}$: 41 mg/kg
$LD50_{drm\ rat}$: 100 mg/kg

TRGS 907 (DE): Sh

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
$LC50_{ihl\ rat}$: $>5800_{4h}$ mg/m³
$LD50_{drm\ rbt}$: >2000 mg/kg

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

Chemical: *potassium permanganate* 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: ≥1,0%Mn class I, Japan PDSCL: not listed
Japan ISHL: listed ≥1,0%/≥0,1%

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$LD50_{orl\ rat}$: 750 mg/kg
$LC_Low_{orl\ hmn}$: 100 mg/kg

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

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).
$PNEC_{(fresh\ water)}$: 1.8 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{fish/96h}$: [4d] 70.3 mg/L
$EC50_{daphnia/48h}$: [48h=24h] 71.6 mg/L
$IC50_{scenedesmus\ quadricauda/72h}$: [72h] 48 mg/L
Water hazard class (DE): 1 WGK No.: 1266
$Dispersion\ coefficient_{(octanol\text{-}water)}$: -4.34
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

100 test sticks Arsenic sensitive

Chemical: *mercury(II) bromide* CAS No.: 7789-47-1
Bio Toxicity: LC_{50} : $0.5_{HgCl2/48h}$ 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.: -

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

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

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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 - 14.4: No dangerous goods according the transport regulations

14.5 Environmental hazards

none, 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
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 ---

SECTION 16: Other information

16.1 List of H and P phrases

16.1.1 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.

16.1.2 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

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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
Regulation 1480/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
Regulation 849/2021/EU, 4th adaptation of CLP regulation to technical and scientific progress
TRGS 900, German engineering rules governing limits in air at work, updated 03/2019
SUVA .CH, Limits in air at work 2009, revised on 01.2009
KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates
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