

# 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

### 1.1 Product identifier

REF 91328  
 no data available QUANTOFIX Formaldehyde  
 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  
 2 x 25 mL HCHO-1 UFI: 1MAV-U314-T205-DEXY

### 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  
 Phone: +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, <<https://www.ggiz-erfurt.de>>

You find our current versions of SDS in Internet: <<http://www.mn-net.com/SDS>>

Lieferant / Supplier  
 Carl Roth GmbH + Co KG  
 Schoemperlenstr. 3-5  
 76185 Karlsruhe, Germany  
 +49 721 5606 0  
 sicherheit@carlroth.de

## SECTION 2: Hazard identification

### 2.0 Classification of the complete product according to Regulation (EC) 1272/2008



GHS05

Signal word DANGER

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1
H314	Skin Corr. 1B

### 2.1 Classification of the substance or mixture according to Regulation (EC) 1272/2008

25 mL HCHO-1



GHS05



MACHEREY-NAGEL GmbH & Co. KG  
 Valencienner Str. 11  
 52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 info@mn-net.com  
 CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com  
 FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com  
 US Tel.: +1 888 321 62 24 sales-us@mn-net.com

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Signal word	DANGER
<b>Hazard identification</b>	<b>Hazard classes/categories</b>
H290	Met. Corr. 1
H314	Skin Corr. 1B

**100 test strips**

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

List of H phrases: see section 16.2

## 2.2 Label elements according regulation (EC) 1272/2008

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). 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).

**25 mL HCHO-1**



GHS05

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.

**100 test strips**

Do not need labelling as hazardous  
 Signal word: -

### Label elements of the complete product



GHS05

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. H290 "May be corrosive to metals." has only relevance for higher concentrations and larger amounts. The labelling GHS05 would be creating an "OVERLABELLING" (see GHS Directive 1272/2008/EC Annex I, chapter 1.5.2.1.3., until 125 mL no labelling necessary).

**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.



MACHEREY-NAGEL GmbH & Co. KG  
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 52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

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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

## Possible endocrine disrupting effects

no data available

## SECTION 3: Composition / information on ingredients

### 3.1 Substances or 3.2 Mixtures

#### 25 mL HCHO-1

Substance name: *sodium hydroxide solution*  
CAS No.: 1310-73-2

Substance rating: No criteria for classification or naming of chemical not required.

Formula:  $\text{NaOH} \cdot \text{H}_2\text{O}$

Pseudonym (de): Natronlauge

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

EC No.: 215-185-5

Indice No.: 011-002-00-6

Concentration: 20 - <35 %

acc. CLP (GHS): H290, Met. Corr. 1, H314, Skin Corr. 1B

#### 100 test strips

Substance name: *cellulose paper*  
CAS No.: 9004-34-6

Substance rating: No criteria for classification or naming of chemical not required.

Formula:  $(\text{C}_6\text{H}_{10}\text{O}_5)_n$

REACH Reg. No.: exempt, Annex IV

EC No.: 232-674-9

Concentration: 1 - <10 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: *chemicals/mixture until 1%*

CAS No.: -

Substance rating: No criteria for classification or naming of chemical not required.

Concentration: 0,1 - <1 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: *PVC foil (CAS 9002-86-2)*

CAS No.: -

Substance rating: No criteria for classification or naming of chemical not required.

Concentration: 95 - <100 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

### 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 16.2.

## 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. ---



MACHEREY-NAGEL GmbH & Co. KG  
Valencienner Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
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- 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**  
Rapid penetration and destruction of the skin. Especially in the heated form.  
Causes severe skin burns and eye damage.
- 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**
  - 5.1.1 Suitable 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.
  - 5.1.2 Unsuitable extinguishing media**  
no data available
- 5.2 Special hazards arising from the substance or mixture**  
Formation of hazardous and caustic vapour-air mixtures possible.
- 5.3 Advice for firefighters**  
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**  
Avoid contact of substance/mixture to environment.  
**PBT:** not applicable  
**vPvB:** not applicable
- 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 5.4,7,8 and 13

## 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**



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Safe storage is guaranteed in the original packaging . Storage class (German chemical industry): see chapter 12.1

**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

#### 25 mL HCHO-1

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

DNEL: [inh] 1 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): 2 mg/m<sup>3</sup>  
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/m<sup>3</sup>

NIOSH: 2 mg/m<sup>3</sup>  
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: [TWA] 2 mg/m<sup>3</sup>

#### 100 test strips

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

TRGS 900 (DE): Staub 1.25 A / 4 E mg/m<sup>3</sup>  
E/e respirable

SUVA(CH) MAK value: 3 a ppm

NIOSH: TWA 10 (total) / 5 (resp) mg/m<sup>3</sup>  
[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/m<sup>3</sup>

Chemical: *chemicals/mixture until 1%* 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

No additional recommendations.

#### 8.2.2 Skin protection / 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 / Face 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.

#### 8.2.6 Thermal hazards

no data available

### 8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.



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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### 25 mL HCHO-1

a) State of aggregation:	
b) Colour:	colourless
c) Odor:	red
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	14
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1,35 g/mL
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

#### 100 test strips

a) State of aggregation:	
b) Colour:	colourless
c) Odor:	red
d) Melting point:	no data available
e) Boiling point:	no data available
f) Flammability:	no data available
g) Explosive limits (lower / upper):	no data available
h) Flash point:	no data available
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	no data available
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	no data available
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

### 9.2 Other information

#### Properties relevant to substance groups

Substances are highly corrosive.

## 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

Can react violently with organic material. No further data available.



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## 10.4 Conditions to avoid

No more required.

## 10.5 Incompatible materials

no additional data available

## 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 the hazard classes according regulation (EC) 1272/2008

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

#### 25 mL HCHO-1

Chemical:	<i>sodium hydroxide solution</i>	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 :	[40%] 1250 / [<25%] >2000 mg/kg	
LD50 orl mus :	40 mg/kg	

#### 100 test strips

Chemical:	<i>cellulose paper</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 :	> 5,800 mg/L/4H	

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

Chemical:	<i>PVC foil (CAS 9002-86-2)</i>	CAS No.: -
TSCA Inventory:	listed	

### 11.2 Other hazards

#### Possible endocrine disrupting effects

no data available

#### Other information

no additional data available



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## SECTION 12: Ecological information

### 12.1 Toxicity

Following information is valid for pure substances.

#### 25 mL HCHO-1

Chemical: *sodium hydroxide solution*

CAS No.: 1310-73-2

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 B

#### 100 test strips

Chemical: *cellulose paper*

CAS No.: 9004-34-6

Water hazard class (DE): nwg

Storage class (VCI): 11

Chemical: *chemicals/mixture until 1%*

CAS No.: -

Water hazard class (DE): 1

Storage class (VCI): 12-13

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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher

### 12.6 Endocrine disrupting properties

no data available

### 12.7 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 ADR

Classification code: M11 Tunnel restriction code: E

Limited Quantity: acc. ADR 3.3.1/251: see LQ in Alternative declaration for transportation

Air transport ICAO

PAX: 960 max. weight PAX: 10 KG

CAO: 960 max. weight CAO: 10 KG

Maritime transport IMDG

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

Or use **Alternative declaration for transportation:**

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

or



MACHEREY-NAGEL GmbH & Co. KG  
Valenciener Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)



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**14.1 UN number:** 3266 **14.2 UN proper shipping name:** Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide solution)  
**14.3 Class:** 8 **14.4 Packing group:** II  
*Road transport ADR*  
 Classification code: C5  
 Limited Quantity: 1 L Tunnel restriction code: E  
 Excepted Quantity: E 2  
*Air transport ICAO*  
 Limited Quantity: LQ22  
 Excepted Quantity: E 2  
 PAX: 851 max. weight PAX: 1 L  
 CAO: 855 max. weight CAO: 30 L  
*Maritime transport IMDG*  
 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**

Dangerous Substances Protection Act (DE: Chemikaliengesetz - ChemG), Aug 2013, Stand: Okt 2020  
 Ordinance on protection against dangerous substances (E: Gefahrstoffverordnung - GefStoffV), Nov 2010, Stand: Mrz 2017  
 TRGS 201, Classification and labeling of activities involving hazardous substances, Feb 2017  
 TRGS 220, National aspects when preparing safety data sheets, Jan 2017  
 TRGS 400, Risk assessment for activities involving hazardous substances, Jul 2017  
 TRGS 401, Skin contact hazard - identification, assessment, action, Jun 2008, status: Feb 2011  
 BekGS 408, Application of the GefStoffV and the TRGS with the entry into force of the CLP regulation, December 2009, status: Jan 2012  
 TRGS 500, Protective measures, Mai 2008  
 TRGS 510, Storage of hazardous substances in portable containers from March 2013, status: Oct 2015  
 Chapter 4, Measures when storing hazardous substances up to 50 kg (small quantity regulation)  
 Wasserhaushaltsgesetz - WHG, Section 3 Handling substances hazardous to water, Jul 2009, status: Aug 2016  
 MN leaflet/instructions for use, also at [www.mn-net.com](http://www.mn-net.com)  
 If necessary, observe other country-specific regulations.

**15.2 Chemical safety assessment**

not necessary for these small amounts

## SECTION 16: Other information

**16.1 Changes compared to the last version**

Between versions 2.2.2.4 and 2.2.2.2 following changes were applied: - 2 substance data corrected

**16.2 List of H and P phrases**

**16.2.1 List of relevant H phrases**

H290 May be corrosive to metals.  
 H314 Causes severe skin burns and eye damage.

**16.2.2 List of relevant P phrases**

P260sh Do not breathe 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.



MACHEREY-NAGEL GmbH & Co. KG  
 Valencienner Str. 11  
 52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
 CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
 FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
 US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)

# Safety Data Sheet

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

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## 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 Sources of key data

KÜHN, BIRETT leaflets on dangerous working materials  
 Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres  
 SUVA .CH, limit values in the air at work 2009, revised on 01/2009  
 Regulation 790/2009/EU Adaptation of the CLP Regulation 1272/2008/EU to technical and scientific progress  
 Regulation 453/2010/EU REACH – REQUIREMENTS FOR THE PREPARATION OF SAFETY DATA SHEET  
 Regulation 487/2013/EU, 4. Adaptation of the CLP regulation to technical and scientific progress  
 Regulation 669/2018/EU, 4. Adaptation of the CLP regulation to technical and scientific progress  
 Regulation 1480/2018/EU, 4. Adaptation of the CLP regulation to technical and scientific progress  
 TRGS 900, German engineering rules on limit values in the air at work, as of 03/2019  
 Regulation 878/2020/EU  
 Regulation 849/2021/EU, 4. Adaptation of the CLP regulation to technical and scientific progress

### Revisions/Updates

*Reason for revision:* 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary  
 2014-04 Adjustment of Regulation 487/2013/EU  
 2016-03 Adjustment of Regulation 1221/2015/EU  
  
 2017-11 adaptation of the ECHA registration dossier  
 2022-11 Adjustment of Regulation 878/2020/EU

## 16.5 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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## 16.6 Legend / Abbreviations

acc:	according
ADR:	Convention concerning the International Carriage of Dangerous Goods by Road
Act:	acute
BAT:	biological workplace tolerance value
CAO:	Cargo Aircraft Only
Carc:	carcinogen
CAS:	Chemical Abstracts Service
CLP:	Classification, Labelling and Packaging regulation
CMR:	carcinogen, mutagen, reproduction toxic
Corr:	corrosive
COD:	chemical oxygen demand
CSCL:	Chemical Substance Control Law (Jp)
Dam:	damage
DNEL:	Derived No-Effect Level (for workers)
derm:	dermal
dog:	dog
EC10:	Concentration causing a toxic effect in 10% of the test organisms
EC:	European Community
EC-Nr:	Substance number of the EC substance inventory
EmS:	Guide to accident management measures on ships
EU:	European Union
fish:	fish (not spezified)
GHS:	Global Harmonized System of Classification and Labeling of Chemicals
gpg:	guinea pig
ICAO:	International Civil Aviation Organization
ihl:	inhaled
IMDG:	International Maritime Dangerous Goods Code
intrav:	intravenous
ipt:	intraperitoneal
ISHL:	Industrial Safety and Health Law (Jp)
LC50:	letale concentration 50%



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LD50: letale dosis 50%

leuciscus idus: fisch, ide, orfe

MAK: maximum workplace concentration

Met: Metall

mus: mouse

Muta: mutagen

NIOSH: National Institute for Occupational Safety and Health (US)

NRD: Non-rapidly degradable

onchorhynchus mykiss: fish, rainbow trout

orl: oral

OSHA: Occupational Safety and Health Administration

PAX: transport on passenger planes allowed

PBT: persistent, bioaccumulating, toxic substance

pH: pH value

pimephales promelas: fish, fathead minnow

PNEC: Predicted No Effect Concentration

PROC 15: Process category 'for laboratory use'

PRTR: Law for PRTR and Promotion of Chemical Management (Jp)

PVC: polyvinyl chloride

quail: bird, quail

rat: rat

rbt: rabbit

RD: rapidly degradable

RE: repeated

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

REF: item number, reference number

Reg.No.: rRegistration number

Repr: harmful to reproduction

Resp: respiratory

RIP: REACH Implementations Projects

scu: sub cutan

SDS: safety data sheet

Sens: sensitisation

STEL: short term exposure limit

STOT: Specific Target Organ Toxicity

SVHC: Substance of Very High Concern

t/a: tons per year

TCCA: Toxic Chemicals Control Act (S. Korea)

Tox: toxic

TSCA: The Toxic Substances Control Act (US)

TWA: time weighted average

TRGS: technical regulations (DE)

vPvB: very persistent, very bioaccumulating substance

## 16.7 Training advice

Regular safety training. 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.

