

# Safety Data Sheet

## SDS acc. Hazard Communication Standard

REF: 934118	Photometer PF-3 Pool, case, Cl2 liquid	Page: 1/14
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### Section 1: Identification

#### 1.1 Product Identifier / Product Name

REF	934118
Product Name	Photometer PF-3 Pool, case, Cl2 liquid
-	1 x Calibration tube (5 mL) 3 x Alkaline Manganese Batteries Type AA 1 x Button cell CR2032, built-in 1 x 20 g Cya-1 3 x 50 capsules NANOFIX pH 6.5-8.2 1 x 25 mL Cl <sub>2</sub> -2 1 x 20 mL Cl <sub>2</sub> -3 1 x 18 mL Cl <sub>2</sub> -1

#### 1.2 Relevant identified Uses of the Substance or Mixture and Uses advised against

**Relevant identified uses**  
 Product for Analytical Use.  
 The Exposure scenario is integrated into sections 1-16.

**Uses advised against**  
 not described

#### 1.3 Details of the Supplier and 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](mailto:sds@mn-net.com) ([msds@mn-net.com](mailto:msds@mn-net.com))

#### 1.4 Emergency Telephone Number

For Chemical Emergency  
 Spill, Leak, Fire, Exposure, or Accident  
 Call CHEMTREC Day or Night (CCN685047)  
 Within USA and Canada: **1-800-424-9300**  
 Outside USA and Canada: **+1 703-527-3887** (collect calls accepted)

You find our current versions of SDS (22 languages) in Internet: <http://www.mn-net.com/SDS>

### Section 2: Hazard(s) Identification

#### 2.0 Classification of the complete Product



GHS07

Signal Word	WARNING
<b>Hazard Identification</b>	<b>Hazard Classes/Categories</b>
H315	Skin Irrit. 2
H319	Eye Irrit. 2

#### 2.1 Classification of the Substance(s) or Mixture(s)

##### Calibration tube (5 mL)

Signal Word	Do not need labelling as hazardous
No Hazard Class	-

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### Alkaline Manganese Batteries Type AA

Signal Word Do not need labelling as hazardous  
-

No Hazard Class

### Button cell CR2032, built-in

Signal Word Do not need labelling as hazardous  
-

No Hazard Class

### 20 g Cya-1

Signal Word Do not need labelling as hazardous  
-

No Hazard Class

### 50 capsules NANOFIX pH 6.5-8.2

Signal Word Do not need labelling as hazardous  
-

No Hazard Class

### 25 mL Cl<sub>2</sub> -2



GHS07

Signal Word WARNING

Hazard Identification	Hazard Classes/Categories
H315	Skin Irrit. 2
H319	Eye Irrit. 2

### 20 mL Cl<sub>2</sub> -3

Signal Word Do not need labelling as hazardous  
-

No Hazard Class

### 18 mL Cl<sub>2</sub> -1

Signal Word Do not need labelling as hazardous  
-

No Hazard Class

## 2.2 Safety, Health and Environmental Regulations/Legislation specific for the Substance or Mixture

According the implementation of GHS immediate packages only must be labelled with product identifier(s), GHS symbol(s), signal word, manufacturer name and phone number (OSHA's interpretation of HCS 2012).

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) / **until 100 mL** (Canada WHMIS 2015). This labelling exemption does not apply to U.S.A.

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### Calibration tube (5 mL)

Do not need labelling as hazardous  
Signal Word: -

### Alkaline Manganese Batteries Type AA

Do not need labelling as hazardous  
Signal Word: -

### Button cell CR2032, built-in

Do not need labelling as hazardous  
Signal Word: -

### 20 g Cya-1

Do not need labelling as hazardous  
Signal Word: -

### 50 capsules NANOFIX pH 6.5-8.2

Do not need labelling as hazardous  
Signal Word: -

### 25 mL Cl<sub>2</sub> -2



GHS07

Signal Word: WARNING

### 20 mL Cl<sub>2</sub> -3

Do not need labelling as hazardous  
Signal Word: -

### 18 mL Cl<sub>2</sub> -1

Do not need labelling as hazardous  
Signal Word: -

## 2.3 Other Hazards

### Possible Hazards from physicochemical Properties

In the case of pH values are less than 5 or higher than 9 then it is irritant. ---

### Information pertaining to particular Risks to Human and possible Symptoms

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### Information pertaining to particular Risks to the Environment

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### Other Hazards

This SDS contains information on shipping and transport safety. ---

## Section 3: Composition/Information on Ingredients

### 3.1 Substances or 3.2 Mixtures

#### Calibration tube (5 mL)

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Chemical: *water* CAS No.: 7732-18-5  
 Classification: No criteria for classification or naming of chemical is not required.  
 Chemical Formula: H<sub>2</sub>O  
 TSCA Inventory: listed  
 RTECS: ZC0110000  
 EC No.: 231-791-2  
 Weight Percent: 90 - <100 %  
 acc. GHS: The criteria for classification are not fulfilled.

### Alkaline Manganese Batteries Type AA

Chemical: *alkaline manganese battery* CAS No.: -  
 Classification: No criteria for classification or naming of chemical is not required.  
 Weight Percent: 99 - <100 %  
 acc. GHS: The criteria for classification are not fulfilled.

### Button cell CR2032, built-in

Chemical: *Button cell on circuit board (lithium metal battery)* CAS No.: -  
 Classification: No criteria for classification or naming of chemical is not required.  
 Weight Percent: 99 - <100 %  
 acc. GHS: The criteria for classification are not fulfilled.

### 20 g Cya-1

Chemical: *sodium sulfite* CAS No.: 7757-83-7  
 Classification: No criteria for classification or naming of chemical is not required.  
 Chemical Formula: Na<sub>2</sub>SO<sub>3</sub>, E221  
 Synonyms: sulfurous acid, disodium salt  
 TSCA Inventory: listed  
 RTECS: WE2150000  
 EC No.: 231-821-4  
 Weight Percent: 10 - <20 %  
 acc. GHS: The criteria for classification are not fulfilled.

Chemical: *triazine derivate* CAS No.: -  
 Classification: No criteria for classification or naming of chemical is not required.  
 TSCA Inventory: listed  
 Weight Percent: 5 - <20 %  
 acc. GHS: The criteria for classification are not fulfilled.

Chemical: *phosphates (buffer salts)* CAS No.: -  
 Classification: No criteria for classification or naming of chemical is not required.  
 Chemical Formula: K/Na<sub>1-3</sub> H<sub>2-0</sub> PO<sub>4</sub>  
 TSCA Inventory: all listed  
 Weight Percent: 50 - <75 %  
 acc. GHS: The criteria for classification are not fulfilled.

### 50 capsules NANOFIX pH 6.5-8.2

Chemical: *phenolred, sodium salt (pH indicator)* CAS No.: 34487-61-1  
 Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2  
 Chemical Formula: C<sub>19</sub>H<sub>13</sub>NaO<sub>5</sub>S  
 Synonyms: 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis-phenol, sodium salt  
 TSCA Inventory: listed MFCD: 00066901  
 EC No.: 252-057-8  
 Weight Percent: 1 - <10 %  
 acc. GHS: The criteria for classification are not fulfilled.

### 25 mL Cl<sub>2</sub>-2

Chemical: *N,N-Diethyl-1,4-phenylene diammonium sulfate* CAS No.: 6283-63-2  
 Classification: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm.  
 Chemical Formula: C<sub>10</sub>H<sub>16</sub>N<sub>2</sub>•H<sub>2</sub>O  
 Synonyms: N,N-diethylbenzene-1,4-diammonium sulfate  
 TSCA Inventory: listed (CAS 6065-27-6)  
 RTECS: SS9625000 MFCD: 00012993  
 EC No.: 228-500-6 Indice No.: 612-080-00-X  
 Weight Percent: 0,1 - <1 %  
 acc. GHS: The criteria for classification are not fulfilled.

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Chemical: *sulfuric acid* CAS No.: 7664-93-9  
 Classification: H314, Skin Corr. 1B  
 Chemical Formula: H<sub>2</sub>SO<sub>4</sub> (•H<sub>2</sub>O)  
 TSCA Inventory: listed  
 RTECS: WS5600000  
 EC No.: 231-639-5 Indice No.: 016-020-00-8  
 Weight Percent: 5 - <15 %  
 acc. GHS: H315, Skin Irrit. 2, H319, Eye Irrit. 2

**20 mL Cl<sub>2</sub> -3**

Chemical: *potassium iodide* CAS No.: 7681-11-0  
 Classification: H319, Eye Irrit. 2  
 Chemical Formula: KI  
 TSCA Inventory: listed  
 RTECS: TT29750000 MFCD: 00011405  
 EC No.: 231-659-4  
 Weight Percent: 1 - <10 %  
 acc. GHS: The criteria for classification are not fulfilled.

**18 mL Cl<sub>2</sub> -1**

Chemical: *phosphate buffer solution* CAS No.: -  
 Classification: No criteria for classification or naming of chemical is not required.  
 Chemical Formula: K/Na<sub>1-3</sub> H<sub>2-0</sub> PO<sub>4</sub> • x H<sub>2</sub>O  
 TSCA Inventory: all listed  
 Weight Percent: 50 - <75 %  
 acc. 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 Hazard and Precaution 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**

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

**4.1.2 After EYE Contact**

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 Vapors**

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

**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

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### 4.3 Indication of any immediate Medical Attention and Special Treatment needed

No additionally recommendations. ---

## Section 5: Fire-Fighting Measures

### 5.1 Extinguishable 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 WATER FOG, WATER SPRAY, alcohol-resistant FOAM, DRY CHEMICAL, CARBON DIOXIDE can be used.

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### 5.2 Special Hazards arising from the Substance or Mixture

Formation of hazardous and caustic vapor-air mixtures possible. ---

### 5.3 Advice for Firefighters

No, for listed product. Product package burns like paper or plastic.

### 5.4 Additional Information

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## Section 6: Accidental Release Measures

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedure

Regular staff training is necessary.

### 6.2 Environmental Precautions

not necessary

### 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 sewer.

### 6.4 Reference to other Sections

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## 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): 8B

Water hazard class (DE): 3

#### 7.2.1 Conditions for Safe Storage, including any Incompatibilities

Keep original product packages tightly closed during handling and storage.

### 7.3 Specific End Use(s)

Product for analytical use.

## Section 8: Exposure Controls/Personal Protection

### 8.1 Control Parameters

#### Calibration tube (5 mL)

Chemical: *water*

CAS No.: 7732-18-5

#### Alkaline Manganese Batteries Type AA

Chemical: *alkaline manganese battery*

CAS No.: -

#### Button cell CR2032, built-in

Chemical: *Button cell on circuit board (lithium metal battery)*

CAS No.: -

#### 20 g Cya-1

Chemical: *sodium sulfite*

DNEL: 298<sub>inh</sub> mg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

CAS No.: 7757-83-7

Chemical: *triazine derivate*

CAS No.: -

Chemical: *phosphates (buffer salts)*

CAS No.: -

#### 50 capsules NANOFIX pH 6.5-8.2

Chemical: *phenolred, sodium salt (pH indicator)*

CAS No.: 34487-61-1

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**25 mL Cl<sub>2</sub> -2**

Chemical: *N,N-Diethyl-1,4-phenylene diammonium sulfate* CAS No.: 6283-63-2  
 NIOSH: not listed  
 [TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period  
 OSHA: not listed

Chemical: *sulfuric acid* CAS No.: 7664-93-9

DNEL: [inh] 50 µg/m<sup>3</sup>  
 DNEL = Derived No-Effect Level (for workers)  
 PNEC(fresh water): 2.5 µg/L  
 PNEC = Predicted No Effect Concentration  
 NIOSH: NTP Report on Carcinogens (RoC) List Yes (Known to be a human carcinogen); [TWA] 1 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] 1 mg/m<sup>3</sup>  
 EU value: 0.1 e mg/m<sup>3</sup>

**20 mL Cl<sub>2</sub> -3**

Chemical: *potassium iodide* CAS No.: 7681-11-0

**18 mL Cl<sub>2</sub> -1**

Chemical: *phosphate buffer solution* 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 Hand Protection

Yes, gloves (permeation time >30 min - level 2), consist of PVC, Natural latex, Neopren, or Nitril. Use for short times chemical resistant Latex gloves f.ex. with code EN 374-3 level 1.

### 8.2.3 Eye/Face Protection

Yes, Splash Goggles.

### 8.2.4 Skin Protection

Not necessary.

### 8.2.5 Hygiene Measures

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

**Calibration tube (5 mL)**

a) Appearance: liquid	Color: colorless	b) Odor: odorless
c) Odor Threshold:	data not available	
d) pH:	6-8	
e) Melting Point:	data not available	
f) Boiling Point:	data not available	
g) Flash Point:	data not available	
h) Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i) Flammability (solid, gas):	data not available	
j) Explosive Limits:	data not available	
k) Vapor Pressure (68°F):	data not available	
l) Vapor Density <sub>(air=1)</sub> :	data not available	
m) Specific Gravity:	1,00 g/cm <sup>3</sup>	
n) Soluble in Water:	data not available	
o) Partition Coefficient (o-w):	data not available	
p) Autoignition Temperature:	data not available	
q) Decomposition temperature:	data not available	
r) Viscosity:	data not available	
s) Explosive properties:	data not available	
t) Oxidizing properties:	---	





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### Alkaline Manganese Batteries Type AA

a)	Appearance: solid	Color: black	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	data not available	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i)	Flammability (solid, gas):	data not available	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density <sub>(air=1)</sub> :	data not available	
m)	Specific Gravity:	data not available	
n)	Soluble in Water:	data not available	
o)	Partition Coefficient (o-w):	data not available	
p)	Autoignition Temperature:	data not available	
q)	Decomposition temperature:	data not available	
r)	Viscosity:	data not available	
s)	Explosive properties:	data not available	
t)	Oxidizing properties:	---	

### Button cell CR2032, built-in

a)	Appearance: solid	Color: colored	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	data not available	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i)	Flammability (solid, gas):	Do not transport damaged batteries. Special instruction necessary	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density <sub>(air=1)</sub> :	data not available	
m)	Specific Gravity:	data not available	
n)	Soluble in Water:	data not available	
o)	Partition Coefficient (o-w):	data not available	
p)	Autoignition Temperature:	data not available	
q)	Decomposition temperature:	data not available	
r)	Viscosity:	data not available	
s)	Explosive properties:	data not available	
t)	Oxidizing properties:	---	

### 20 g Cya-1

a)	Appearance: powder (solid)	Color: slightly yellow	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	6-8	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i)	Flammability (solid, gas):	data not available	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density <sub>(air=1)</sub> :	data not available	
m)	Specific Gravity:	data not available	
n)	Soluble in Water:	data not available	
o)	Partition Coefficient (o-w):	data not available	
p)	Autoignition Temperature:	data not available	
q)	Decomposition temperature:	data not available	
r)	Viscosity:	data not available	
s)	Explosive properties:	data not available	
t)	Oxidizing properties:	---	

### 50 capsules NANOFIX pH 6.5-8.2

a)	Appearance: solid (lyoph.)	Color: red	b) Odor: odorless
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c)	Odor Threshold:	data not available
d)	pH:	7,0
e)	Melting Point:	data not available
f)	Boiling Point:	data not available
g)	Flash Point:	data not available
h)	Evaporation Rate <sub>(ether=1)</sub> :	data not available
i)	Flammability (solid, gas):	data not available
j)	Explosive Limits:	data not available
k)	Vapor Pressure (68°F):	data not available
l)	Vapor Density <sub>(air=1)</sub> :	data not available
m)	Specific Gravity:	data not available
n)	Soluble in Water:	0-100 %
o)	Partition Coefficient (o-w):	data not available
p)	Autoignition Temperature:	data not available
q)	Decomposition temperature:	data not available
r)	Viscosity:	data not available
s)	Explosive properties:	data not available
t)	Oxidizing properties:	---

### 25 mL Cl<sub>2</sub> -2

a)	Appearance: liquid	Color: rose	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	0-1	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	
h)	Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i)	Flammability (solid, gas):	data not available	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density <sub>(air=1)</sub> :	data not available	
m)	Specific Gravity:	1,1 g/cm <sup>3</sup>	
n)	Soluble in Water:	data not available	
o)	Partition Coefficient (o-w):	data not available	
p)	Autoignition Temperature:	data not available	
q)	Decomposition temperature:	data not available	
r)	Viscosity:	data not available	
s)	Explosive properties:	data not available	
t)	Oxidizing properties:	---	

### 20 mL Cl<sub>2</sub> -3

a)	Appearance: liquid	Color: colorless	b) Odor: alcoholic
c)	Odor Threshold:	data not available	
d)	pH:	9	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	24 °C	
h)	Evaporation Rate <sub>(ether=1)</sub> :	data not available	
i)	Flammability (solid, gas):	data not available	
j)	Explosive Limits:	data not available	
k)	Vapor Pressure (68°F):	data not available	
l)	Vapor Density <sub>(air=1)</sub> :	data not available	
m)	Specific Gravity:	0,93 g/cm <sup>3</sup>	
n)	Soluble in Water:	0-100 %	
o)	Partition Coefficient (o-w):	data not available	
p)	Autoignition Temperature:	data not available	
q)	Decomposition temperature:	data not available	
r)	Viscosity:	data not available	
s)	Explosive properties:	data not available	
t)	Oxidizing properties:	---	

### 18 mL Cl<sub>2</sub> -1

a)	Appearance: liquid	Color: colorless	b) Odor: odorless
c)	Odor Threshold:	data not available	
d)	pH:	9	
e)	Melting Point:	data not available	
f)	Boiling Point:	data not available	
g)	Flash Point:	data not available	

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h)	Evaporation Rate <sub>(ether=1)</sub> :	data not available
i)	Flammability (solid, gas):	data not available
j)	Explosive Limits:	data not available
k)	Vapor Pressure (68°F):	data not available
l)	Vapor Density <sub>(air=1)</sub> :	data not available
m)	Specific Gravity:	1,2 g/cm <sup>3</sup>
n)	Soluble in Water:	0-100 %
o)	Partition Coefficient (o-w):	data not available
p)	Autoignition Temperature:	data not available
q)	Decomposition temperature:	data not available
r)	Viscosity:	data not available
s)	Explosive properties:	data not available
t)	Oxidizing properties:	---

### 9.2 Other Information

Relevant Properties of Substance Group

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## 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

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### 10.5 Incompatible Materials

Not necessary. 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 - protected against short circuits. Decompositions are not observed during the expiration period under recommended conditions.

## Section 11: Toxicological Information

### 11.1 Information on Toxicological Effects

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

#### Calibration tube (5 mL)

Chemical:	<i>water</i>	CAS No.: 7732-18-5
TSCA Inventory:	listed	

#### Alkaline Manganese Batteries Type AA

Chemical:	<i>alkaline manganese battery</i>	CAS No.: -
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#### Button cell CR2032, built-in

Chemical:	<i>Button cell on circuit board (lithium metal battery)</i>	CAS No.: -
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#### 20 g Cya-1

Chemical:	<i>sodium sulfite</i>	CAS No.: 7757-83-7
TSCA Inventory:	listed	
LD50 <sub>orl rat</sub> :	2610 mg/kg	
LC50 <sub>ihl rat</sub> :	>5.5 <sub>4h</sub> mg/L	

Chemical:	<i>triazine derivate</i>	CAS No.: -
TSCA Inventory:	listed	



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<b>25 mL Cl<sub>2</sub> -2</b>		
Chemical:	<i>N,N-Diethyl-1,4-phenylene diammonium sulfate</i>	CAS No.: 6283-63-2
Chemical:	<i>sulfuric acid</i>	CAS No.: 7664-93-9
PNEC <sub>(fresh water)</sub> :	2.5 µg/L	
PNEC = Predicted No Effected Concentration		
LC50 <sub>fish/96h</sub> :	[NOEC, 65d] 25 µg/L	
EC50 <sub>daphnia/48h</sub> :	100 mg/L	
EC10 <sub>pseudomonas putita/16h</sub> :	[72h] 100 mg/L	
<b>20 mL Cl<sub>2</sub> -3</b>		
Chemical:	<i>potassium iodide</i>	CAS No.: 7681-11-0
LC50 <sub>fish/96h</sub> :	2190 mg/L	
Partition Coefficient (o-w):	0.04	
<b>18 mL Cl<sub>2</sub> -1</b>		
Chemical:	<i>phosphate buffer solution</i>	CAS No.: -

- 12.2 Persistence and Degradability**  
not necessary
- 12.3 Bioaccumulative Potential**  
not necessary
- 12.4 Mobility in Soil**  
not necessary
- 12.5 Results of PBT and vPvB Assessment**  
no data available
- 12.6 Other Adverse Effects**  
no additional data available

### Section 13: Disposal Considerations

Batteries must be collected separately and disposed acc. law regulations (electronic waste, f. ex. in EU WEEE). Further: 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 (RCRA Code D002/D003, EU waste code number 16 05 06).

- 13.1 Waste Treatment Methods**  
Normally it is possible to empty small amounts (diluted!) into drains.

### Section 14: Transport Information

<b>14.1. UN/NA:</b>	<b>3316</b>	<b>14.2. Proper Shipping Name:</b>	<b>Chemical Kit</b>
<b>14.3. Hazard Class:</b>	<b>9</b>	<b>14.4. Packing Group:</b>	<b>II</b>
<i>Transportation by Road</i>			
Classification code:	M11	Tunnel Restriction Code:	E
Limited Quantity:	acc. ADR 3.3.1/251: see LQ in "Alternative Declaration for Transportation"		
<i>Air Transportation</i>			
PAX:	960	max. weight PAX:	10 KG
CAO:	960	max. weight CAO:	10 KG
<i>Maritime Transport</i>			
EmS:	F-A, S-P	Storage Category:	A

Or use the **alternative Declaration for Transportation:**  
**14.1 - 14.4:** No dangerous goods according the Transport regulations  
 Lithium metal batteries in equipment, not restricted, PI 970: Section II (button cell), No entry in AWB necessary UN/NA: (see below) UN/NA 1993 Class 3 III, Class 8 III, **Excepted Quantities** (≤30 mL/Σ≤1 L) = ADR/ IATA E1  
 or

<b>14.1. UN/NA:</b>	<b>3260</b>	<b>14.2. Proper Shipping Name:</b>	<b>Corrosive solid, acidic, inorganic, n.o.s. (sulfuric acid, sodium sulfite mixture)</b>
<b>14.3. Hazard Class:</b>	<b>8</b>	<b>14.4. Packing Group:</b>	<b>III</b>
<i>Transportation by Road</i>			
Classification code:	C2	Tunnel restriction code:	E
Limited Quantity:	5 Kg		
Excepted Quantity:	E 1		
<i>Air Transportation</i>			



# Safety Data Sheet

## SDS acc. Hazard Communication Standard

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Photometer PF-3 Pool, case, Cl2 liquid

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PAX:	860	max. weight PAX:	25 Kg
CAO:	864	max. weight CAO:	100 Kg
<i>Maritime Transport</i>			
EmS:	F-A, S-B	Storage Category:	A

### 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

#### U.S. Federal Regulations

OSHA "A Guide to The Globally Harmonized System of Classification and Labelling of Chemicals (GHS)"

<https://www.osha.gov/dsg/hazcom/ghs.html>

29 CFR 1910.1200 Hazard communication.

NIOSH Pocket Guide to Chemical Hazards

NIOSH Workplace Safety &amp; Health Topics

TSCA Inventory

#### U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986

#### Canada

Canada CEPA 1999 - Domestic Substances List (DSL), List of Toxic Substances (Schedule 1)

MN Leaflet/User manual, also see [www.mn-net.com](http://www.mn-net.com)

### 15.2 Chemical Safety Assessment

not necessary for these small amounts ---

## Section 16: Other Information

### 16.1 List of Hazard and Precaution Phrases

#### 16.1.1 List of relevant H Phrases

H315	Causes skin irritation.
H319	Causes serious eye irritation.

#### 16.1.2 List of relevant P Phrases

P280sh	Wear protective gloves/eye protection.
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### 16.2 Training Advice

Regular safety training.

### 16.3 Recommended Restriction on Use

Only for Professional User.

An individual package of this product or test kit has a moderate hazardous potential.

### 16.4 Further Information

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

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### 16.5 Sources of Key Data

GHS: EU Regulation 1272/2008/EC on Classification, Labelling and Packaging of Substances and Mixtures, amending and repealing EU Directives 67/548/EEC and 1999/45/EC, and amending EU Regulation 1907/2006/EC

SDS: EU Regulation 453/2010/EU REACH - Requirements for the Compilation of Safety Data Sheets

KÜHN, BIRETT (German), Data Sheets of Hazardous Substances

#### Revisions/Updates

[www.mn-net.com](http://www.mn-net.com)

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You find our current Versions of SDS in Internet:

<http://www.mn-net.com/SDS> [U.S. English]