

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 1/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

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

### 1.1 Product identifier

REF 934127  
Product name Photometer PF-3 Fish, case

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.

4 x Alkaline Manganese Batteries Type AA  
1 x Button cell CR2032, built-in  
1 x 30 mL Cu-1  
1 x 20 mL Cu-2  
1 x 17 mL Fe-1  
1 x 5 g Fe-2  
1 x 10 mL Indicator m  
2 x 50 capsules NANOFIX pH 6.5-8.2  
1 x 100 mL P-1  
1 x 100 mL P-2  
2 x 100 test strips  
1 x 100 mL TL AL 7  
1 x 28 g Cl<sub>2</sub> -1  
1 x 30 mL NH<sub>4</sub> -1  
1 x 2,5 g NH<sub>4</sub> -2  
1 x 6 mL NH<sub>4</sub> -3  
1 x 30 mL NO<sub>3</sub> -1  
1 x 5 g NO<sub>3</sub> -2  
1 x 30 mL NO<sub>2</sub> -1  
1 x 5 g NO<sub>2</sub> -2  
1 x 25 mL PO<sub>4</sub> -1  
1 x 25 mL PO<sub>4</sub> -2  
1 x 15 mL O<sub>2</sub> -1  
1 x 15 mL O<sub>2</sub> -2  
1 x 30 mL O<sub>2</sub> -3  
1 x 25 mL SiO<sub>2</sub> -3  
1 x 25 mL SiO<sub>2</sub> -2  
1 x 25 mL SiO<sub>2</sub> -1  
1 x 30 mL Cl<sub>2</sub> -2

### 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.

#### Uses advised against

not described

### 1.3 Details of the supplier of the safety data sheet

#### Manufactured by:

MACHERY-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>

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 2/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

## SECTION 2: Hazard identification

### 2.0 Classification of the complete product



Signal word	DANGER
<b>Hazard identification</b>	<b>Hazard classes/categories</b>
EUH031	031 not defined
H225	Flam. Liq. 2
H226	Flam. Liq. 3
H290	Met. Corr. 1
H302	Acute Tox. 4 oral
H314	Skin Corr. 1A
H315	Skin Irrit. 2
H317	Skin Sens. 1
H318	Eye Dam. 1
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H411	Aquatic Chronic 2
H412	Aquatic Chronic 3

### 2.1 Classification of the substance or mixture

#### 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

#### 30 mL Cu-1

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

#### 20 mL Cu-2

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

#### 17 mL Fe-1

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

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 3/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

**5 g Fe-2**

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

**10 mL Indicator m**



Signal word GHS02  
DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2

**50 capsules NANOFIX pH 6.5-8.2**

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

**100 mL P-1**



Signal word GHS05  
DANGER

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

**100 mL P-2**



Signal word GHS05  
DANGER

Hazard identification	Hazard classes/categories
EUH031	031 not defined
H318	Eye Dam. 1

**100 test strips**

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

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 4/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

**100 mL TL AL 7**

Signal word

Do not need labelling as hazardous

No hazard class

**28 g Cl<sub>2</sub> -1**

Signal word

Do not need labelling as hazardous

No hazard class

**30 mL NH<sub>4</sub> -1**



GHS05

Signal word

DANGER

**Hazard identification**

**Hazard classes/categories**

H290  
H314

Met. Corr. 1  
Skin Corr. 1A

**2,5 g NH<sub>4</sub> -2**

Signal word

Do not need labelling as hazardous

No hazard class

**6 mL NH<sub>4</sub> -3**



GHS02



GHS05

Signal word

DANGER

**Hazard identification**

**Hazard classes/categories**

H226  
H314  
H412

Flam. Liq. 3  
Skin Corr. 1B  
Aquatic Chronic 3

**30 mL NO<sub>3</sub> -1**

Signal word

Do not need labelling as hazardous

No hazard class

**5 g NO<sub>3</sub> -2**



GHS09

# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 5/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

Signal word WARNING  
**Hazard identification** **Hazard classes/categories**  
 H411 Aquatic Chronic 2

**30 mL NO<sub>2</sub> -1**

Signal word Do not need labelling as hazardous  
 -  
**Hazard identification** **Hazard classes/categories**  
 H290 Met. Corr. 1

**5 g NO<sub>2</sub> -2**

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

**25 mL PO<sub>4</sub> -1**



Signal word GHS07  
 WARNING  
**Hazard identification** **Hazard classes/categories**  
 H315 Skin Irrit. 2  
 H319 Eye Irrit. 2

**25 mL PO<sub>4</sub> -2**



Signal word GHS05  
 DANGER  
**Hazard identification** **Hazard classes/categories**  
 EUH031 031 not defined  
 H318 Eye Dam. 1

**15 mL O<sub>2</sub> -1**



Signal word GHS07 GHS09  
 WARNING  
**Hazard identification** **Hazard classes/categories**  
 H302 Acute Tox. 4 oral  
 H411 Aquatic Chronic 2

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 6/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

**15 mL O<sub>2</sub> -2**



GHS05

Signal word

DANGER

**Hazard identification**

**Hazard classes/categories**

H290  
H314

Met. Corr. 1  
Skin Corr. 1A

**30 mL O<sub>2</sub> -3**



GHS05

GHS07

GHS08

Signal word

DANGER

**Hazard identification**

**Hazard classes/categories**

H314  
H317  
H334

Skin Corr. 1A  
Skin Sens. 1  
Resp. Sens. 1

**25 mL SiO<sub>2</sub> -3**



GHS05

Signal word

DANGER

**Hazard identification**

**Hazard classes/categories**

EUH031  
H318

031 not defined  
Eye Dam. 1

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

Signal word

Do not need labelling as hazardous

No hazard class

**25 mL SiO<sub>2</sub> -1**



GHS07

Signal word

WARNING

**Hazard identification**

**Hazard classes/categories**

H315  
H319

Skin Irrit. 2  
Eye Irrit. 2

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 7/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

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

Signal word

Do not need labelling as hazardous

-

No hazard class

## 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** and highly flammable chemicals/mixtures must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2). This labelling exemption is NOT valid for sensibilizing substances.

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).

### 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: -

### 30 mL Cu-1

Do not need labelling as hazardous

Signal word: -

### 20 mL Cu-2

Do not need labelling as hazardous

Signal word: -

### 17 mL Fe-1

Do not need labelling as hazardous

Signal word: -

### 5 g Fe-2

Do not need labelling as hazardous

Signal word: -

### 10 mL Indicator m



GHS02

Signal word: DANGER

### 50 capsules NANOFIX pH 6.5-8.2

Do not need labelling as hazardous

Signal word: -

### 100 mL P-1



GHS05

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 8/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

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 mL P-2



GHS05

Signal word: DANGER

H318

Causes serious eye damage.

P280sh, P305+351+338, P310

Wear protective gloves/eye protection. 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: -

## 100 mL TL AL 7

Do not need labelling as hazardous

Signal word: -

## 28 g Cl<sub>2</sub> -1

Do not need labelling as hazardous

Signal word: -

## 30 mL NH<sub>4</sub> -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.

## 2,5 g NH<sub>4</sub> -2

Do not need labelling as hazardous

Signal word: -

## 6 mL NH<sub>4</sub> -3



# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 9/46

Printing date: 01.10.2019

Date of issue: 20.05.2019



GHS02



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.

## 30 mL NO<sub>3</sub> -1

Do not need labelling as hazardous

Signal word: -

## 5 g NO<sub>3</sub> -2



GHS09

Signal word: WARNING

## 30 mL NO<sub>2</sub> -1

Do not need labelling as hazardous

Signal word: -

## 5 g NO<sub>2</sub> -2

Do not need labelling as hazardous

Signal word: -

## 25 mL PO<sub>4</sub> -1



GHS07

Signal word: WARNING

## 25 mL PO<sub>4</sub> -2



GHS05

Signal word: DANGER

H318

Causes serious eye damage.

P280sh, P305+351+338, P310

Wear protective gloves/eye protection. 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.

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 10/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

## 15 mL O<sub>2</sub> -1



GHS07



GHS09

Signal word: WARNING

## 15 mL O<sub>2</sub> -2



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.

## 30 mL O<sub>2</sub> -3



GHS05



GHS07



GHS08

Signal word: DANGER

H314, H317, H334

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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.

## 25 mL SiO<sub>2</sub> -3



GHS05

Signal word: DANGER

H318

Causes serious eye damage.

P280sh, P305+351+338, P310

Wear protective gloves/eye protection. 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.

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

Do not need labelling as hazardous

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 11/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

Signal word: -

## 25 mL SiO<sub>2</sub> -1



GHS07

Signal word: WARNING

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

Do not need labelling as hazardous

Signal word: -

## 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. In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties. The property H314 "Causes severe skin burns and eye damage." of some salts is not applicable, because the mixture is buffered to pH >3-4 (see GHS Directive 1272/2008/EC Annex I, chapter 3.2.3.1.2.). 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.

Cause after oral intake, skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled. -

### Information pertaining to particular risks to the environment

Avoid contact of substance/mixture to environment.

PBT: not applicable

vPvB: not applicable

### Other hazards

Contains an odor intensive reagent. This SDS contains information on shipping and transport safety. ---

## SECTION 3: Composition/information on ingredients

### 3.1 Substances or 3.2 Mixtures

#### Alkaline Manganese Batteries Type AA

Chemical: *alkaline manganese battery*

CAS No.: -

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

Concentration: 99 - <100 %

acc. CLP (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 not required.

Concentration: 99 - <100 %

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

#### 30 mL Cu-1

Chemical: *citrate buffer solution*

CAS No.: -

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

TSCA Inventory: all listed

KE No.: listed

Concentration: 40 - <60 %

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

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 12/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

**20 mL Cu-2**

Chemical: *oxalic acid bis(cyclohexylidenehydrazide)* CAS No.: 370-81-0  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $C_{14}H_{22}N_4O_2$   
 Pseudonym: cuprizon, 1,2-bis(2-cyclohexylidenehydrazide)ethanedioic acid  
 TSCA Inventory: listed  
 EC No.: 206-729-2  
 RTECS: RO2520000 MFCD: 00001659  
 Concentration: < 1,00 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $C_2H_6OS$   
 Pseudonym: DMSO, 1,1'-sulfinylbis-methane  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119431362-50-xxxx  
 EC No.: 200-664-3  
 RTECS: PV6210000 MFCD: 00002089  
 KE No.: KE-32367  
 Concentration: 80 - <100 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**17 mL Fe-1**

Chemical: *triazine derivate* CAS No.: -  
 Classification: No criteria for classification or naming of chemical not required.  
 TSCA Inventory: listed  
 Concentration: < 1,00 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *acetate buffer solution* CAS No.: -  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $CH_3COOH/K/Na \cdot H_2O$   
 TSCA Inventory: all listed  
 KE No.: listed  
 Concentration: 45 - <60 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**5 g Fe-2**

Chemical: *L(+)-ascorbic acid* CAS No.: 50-81-7  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $C_6H_8O_6$   
 Pseudonym: vitamin C  
 TSCA Inventory: listed  
 REACH Reg. No.: exempt, Annex IV  
 EC No.: 200-066-2  
 RTECS: C17650000 MFCD: 00064328  
 KE No.: KE-01947  
 Concentration: 20 - <30 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *sodium chloride* CAS No.: 7647-14-5  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula: NaCl  
 Pseudonym: salt  
 TSCA Inventory: listed  
 REACH Reg. No.: exempt, Annex V  
 EC No.: 231-598-3  
 RTECS: VZ4725000  
 KE No.: KE-31387  
 Concentration: 50 - <80 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**10 mL Indicator m**



# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 13/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

Chemical: *methyl red (pH indicator)* CAS No.: 493-52-7  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $C_{15}H_{15}N_3O_2$   
 Pseudonym: 4-(dimethylamino)-azobenzene-1,2'-carboxylic acid  
 TSCA Inventory: listed  
 EC No.: 207-776-1  
 RTECS: DG8960000 MFCD: 00002425  
 KE No.: 06693  
 Concentration: 0,1 - <1 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *ethanol* CAS No.: 64-17-5  
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)  
 Classification: H225, Flam. Liq. 2  
 Formula:  $C_2H_6O$ ;  $C_2H_5OH$   
 Pseudonym: ethyl alcohol, methylated spirit  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119457610-43-xxxx  
 EC No.: 200-578-6 Indice No.: 603-002-00-5  
 RTECS: KQ6300000 MFCD: 00003568  
 KE No.: KE-13217  
 Concentration: 55 - <75 %  
 acc. CLP (GHS): H225, Flam. Liq. 2

Chemical: *indicator dye(s)* CAS No.: -  
 Classification: No criteria for classification or naming of chemical not required.  
 TSCA Inventory: all listed, <1%  
 Concentration: 0,1 - <1 %  
 acc. CLP (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  
 Formula:  $C_{19}H_{13}NaO_5S$   
 Pseudonym: 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis-phenol, sodium salt  
 TSCA Inventory: listed  
 EC No.: 252-057-8 MFCD: 00066901  
 Concentration: 1 - <10 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

## 100 mL P-1

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $H_{24}Mo_7N_6O_{24}$   
 Pseudonym: hexaammonium heptamolybdate  
 TSCA Inventory: listed (CAS 11098-84-3)  
 REACH Reg. No.: 01-2119498057-28-xxxx  
 EC No.: 234-722-4  
 RTECS: QA5076000 / QA4900000 MFCD: 00167059  
 KE No.: not listed  
 Concentration: 2 - <5 % Correlation factor: x 0.58 (= %Mo)  
 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: *sulfuric acid* CAS No.: 7664-93-9  
 Classification: H314, Skin Corr. 1B  
 Formula:  $H_2SO_4 \cdot (H_2O)$   
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119458838-20-xxxx  
 EC No.: 231-639-5 Indice No.: 016-020-00-8  
 RTECS: WS5600000  
 KE No.: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
 Concentration: 15 - <30 %  
 acc. CLP (GHS): H290, Met. Corr. 1, H314, Skin Corr. 1B

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 14/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

**100 mL P-2**

Chemical: *sodium disulfite* CAS No.: 7681-57-4  
 Classification: H302, Acute Tox. 4 oral, H318, Eye Dam. 1, EUH031, 031 not defined  
 Formula: Na<sub>2</sub>O<sub>5</sub>S<sub>2</sub>  
 Pseudonym: sodium metabisulphite, sodium pyrosulfite  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119531326-45-xxxx  
 EC No.: 231-673-0 Indice No.: 016-063-00-2  
 RTECS: UX8225000  
 KE No.: KE-12701  
 Concentration: 10 - <25 %  
 acc. CLP (GHS): H318, Eye Dam. 1, EUH031, 031 not defined

**100 test strips**

Chemical: *cellulose* CAS No.: 9004-34-6  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula: (C<sub>6</sub>H<sub>10</sub>O<sub>5</sub>)<sub>n</sub>  
 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: *chemicals/mixture < 1%* 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: *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.

**100 mL TL AL 7**

Chemical: *hydrochloric acid* CAS No.: 7647-01-0  
 Classification: H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh.  
 Formula: HCl•H<sub>2</sub>O  
 Pseudonym: aqueous hydrogen chloride  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119484862-27-xxxx  
 EC No.: 231-595-7 Indice No.: 017-002-01-X  
 RTECS: MW4025000  
 KE No.: KE-20189, >10% Toxic 97-1-203, Acc. Precaution Chem.  
 Concentration: 0,1 - <1 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**28 g Cl<sub>2</sub>-1**

Chemical: *boric acid* CAS No.: 10043-35-3  
 Classification: H360FD, Repr. 1B  
 Formula: H<sub>3</sub>BO<sub>3</sub>  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119486683-25-0024  
**SVHC listed: listed (18/06/2010)**  
 EC No.: 233-139-2 Indice No.: 005-007-00-2  
 RTECS: ED4550000 MFCD: 00011337  
 KE No.: KE-03499  
 Concentration: 0,5 - <5,5 % Correlation factor: x 0.17 (= %B)  
 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.



# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 15/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

Chemical: *tri-sodium citrate* CAS No.: 6132-04-3  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $C_6H_5Na_3O_7 \cdot 2H_2O$   
 TSCA Inventory: listed (CAS 68-04-2)  
 REACH Reg. No.: 01-2119457027-40-xxxx  
 EC No.: 200-675-3  
 RTECS: GE8300000  
 KE No.: KE-20843  
 Concentration: 40 - <60 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

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.  
 Formula:  $C_{10}H_{16}N_2 \cdot H_2O$   
 Pseudonym: N,N-diethylbenzene-1,4-diammonium sulfate  
 TSCA Inventory: listed (CAS 6065-27-6)  
 EC No.: 228-500-6  
 RTECS: SS9625000  
 Concentration: 1 - <5 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *potassium dihydrogen phosphate* CAS No.: 7778-77-0  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $KH_2PO_4$   
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119490224-41-XXXX  
 EC No.: 231-913-4  
 RTECS: TC6615500  
 KE No.: KE-28622  
 Concentration: 5 - <25 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**30 mL NH<sub>4</sub> -1**

Chemical: *sodium hydroxide solution* CAS No.: 1310-73-2  
 Classification: H290, Met. Corr. 1, H314, Skin Corr. 1B  
 Formula:  $NaOH \cdot H_2O$   
 Pseudonym: soda lye  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119457892-27-xxxx  
 EC No.: 215-185-5  
 RTECS: WB4900000  
 KE No.: KE-31487  
 Concentration: 5 - <10 %  
 acc. CLP (GHS): H290, Met. Corr. 1, H314, Skin Corr. 1B

Chemical: *tri-sodium citrate* CAS No.: 6132-04-3  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $C_6H_5Na_3O_7 \cdot 2H_2O$   
 TSCA Inventory: listed (CAS 68-04-2)  
 REACH Reg. No.: 01-2119457027-40-xxxx  
 EC No.: 200-675-3  
 RTECS: GE8300000  
 KE No.: KE-20843  
 Concentration: 10 - <20 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**2,5 g NH<sub>4</sub> -2**



# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 16/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

Chemical: *dichloroisocyanuric acid, Na salt* CAS No.: 2893-78-9  
 Classification: H272, Ox. Liq. 2, H302, Acute Tox. 4 oral, H319, Eye Irrit. 2, H335, STOT SE 3, H410, Aquatic  
 Chronic 1, EUH031, 031 not defined  
 Formula:  $C_3Cl_2N_3NaO_3$   
 Pseudonym: troclosene sodium, sodium 3,5-dichloro-2,4,6-trioxo-1,3,5-triazinan-1-ide  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119489371-33-xxxx  
 EC No.: 220-767-7 Indice No.: 613-030-01-7  
 RTECS: XZ1900000 MFCD: 00006036  
 KE No.: KE-10215, >25% Toxic 2014-1-688  
 Concentration: 3 - <10 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *sodium chloride* CAS No.: 7647-14-5  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula: NaCl  
 Pseudonym: salt  
 TSCA Inventory: listed  
 REACH Reg. No.: exempt, Annex V  
 EC No.: 231-598-3  
 RTECS: VZ4725000  
 KE No.: KE-31387  
 Concentration: 80 - <100 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**6 mL NH<sub>4</sub>-3**

Chemical: *sodium nitroprusside* CAS No.: 13755-38-9  
 Classification: H301, Acute Tox. 3 oral  
 Formula:  $Na_2[Fe(CN)_5NO]_2 \cdot 2 H_2O$   
 Pseudonym: disodium pentacyanonitrosylferrate  
 TSCA Inventory: listed (CAS 14402-89-2)  
 EC No.: 238-373-9  
 RTECS: LJ89250000  
 KE No.: not listed  
 Concentration: 1 - <5 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *ethanol* CAS No.: 64-17-5  
 (denatured with 1%IPA/1%MEK, acc.2016/1867/EU)  
 Classification: H225, Flam. Liq. 2  
 Formula:  $C_2H_6O$ ;  $C_2H_5OH$   
 Pseudonym: ethyl alcohol, methylated spirit  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119457610-43-xxxx  
 EC No.: 200-578-6 Indice No.: 603-002-00-5  
 RTECS: KQ6300000 MFCD: 00003568  
 KE No.: KE-13217  
 Concentration: 35 - <55 %  
 acc. CLP (GHS): H226, Flam. Liq. 3

Chemical: *thymol* CAS No.: 89-83-8  
 Classification: H302, Acute Tox. 4 oral, H314, Skin Corr. 1B, H411, Aquatic Chronic 2  
 Formula:  $C_{10}H_{14}O$   
 Pseudonym: 5-methyl-2-(1-methylethyl)-phenol  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119511177-46-xxxx  
 EC No.: 201-944-8 Indice No.: 604-032-00-1  
 RTECS: XP2275000 MFCD: 00002309  
 KE No.: KE-24420  
 Concentration: 5 - <10 %  
 acc. CLP (GHS): H314, Skin Corr. 1B, H412, Aquatic Chronic 3

**30 mL NO<sub>3</sub>-1**





# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 17/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

Chemical: *m-phenylenediammonium dichloride* CAS No.: 541-69-5  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $C_6H_{10}Cl_2N_2$   
 Pseudonym: 1,3-benzenediamine, dihydrochloride  
 TSCA Inventory: listed  
 EC No.: 208-790-0 Index No.: 612-148-00-9  
 RTECS: SS9800000 MFCD: 00012975  
 KE No.: KE-05-1004, >25% Toxic 97-1-334  
 Concentration: < 1,00 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *citric acid* CAS No.: 77-92-9  
 Classification: H303, Acute Tox. 5 oral, H316, Skin Irrit. 3, H319, Eye Irrit. 2  
 Formula:  $C_6H_8O_7$   
 Pseudonym: 2-hydroxy-1,2,3-propanetricarboxylic acid  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119457026-42-xxxx  
 EC No.: 201-069-1  
 RTECS: GE7350000/GE7810000  
 KE No.: KE-20831  
 Concentration: 1 - <10 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**5 g NO<sub>3</sub>-2**

Chemical: *zinc powder (stabilized)* 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 Index No.: 030-002-01-9  
 RTECS: ZG8600000  
 KE No.: KE-35518  
 Concentration: 2,5 - <10 %  
 acc. CLP (GHS): H411, Aquatic Chronic 2

**30 mL NO<sub>2</sub>-1**

Chemical: *sulfanilamide* CAS No.: 63-74-1  
 Classification: H303, Acute Tox. 5 oral  
 Formula:  $C_6H_8N_2O_2S$   
 Pseudonym: 4-aminobenzene sulfonamide  
 TSCA Inventory: listed  
 EC No.: 200-563-4  
 RTECS: WO8400000 MFCD: 00007939  
 KE No.: KE-01188  
 Concentration: 1 - <10 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *o-phosphoric acid* CAS No.: 7664-38-2  
 Classification: H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H314, Skin Corr. 1B  
 Formula:  $H_3PO_4 \cdot H_2O$   
 Pseudonym: orthophosphoric acid  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119485924-24-xxxx  
 EC No.: 231-633-2 Index No.: 015-011-00-6  
 RTECS: TB6300000  
 KE No.: KE-27427  
 Concentration: 1 - <10 %  
 acc. CLP (GHS): H290, Met. Corr. 1

**5 g NO<sub>2</sub>-2**



# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 18/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

Chemical: *N-(1-naphthyl)-ethylendiamine dihydrochloride* CAS No.: 1465-25-4  
 Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2  
 Formula:  $C_{12}H_{16}Cl_2N_2$   
 Pseudonym: N1-1-naphthalenyl-1,2-ethanediamine, dihydrochloride  
 TSCA Inventory: listed  
 EC No.: 215-981-2  
 RTECS: KV5330000 MFCD: 00012556  
 KE No.: not listed  
 Concentration: 1 - <10 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *citric acid* CAS No.: 77-92-9  
 Classification: H303, Acute Tox. 5 oral, H316, Skin Irrit. 3, H319, Eye Irrit. 2  
 Formula:  $C_6H_8O_7$   
 Pseudonym: 2-hydroxy-1,2,3-propanetricarboxylic acid  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119457026-42-xxxx  
 EC No.: 201-069-1  
 RTECS: GE7350000/GE7810000  
 KE No.: KE-20831  
 Concentration: 1 - <10 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**25 mL PO<sub>4</sub>-1**

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $H_{24}Mo_7N_6O_{24}$   
 Pseudonym: hexaammonium heptamolybdate  
 TSCA Inventory: listed (CAS 11098-84-3)  
 REACH Reg. No.: 01-2119498057-28-xxxx  
 EC No.: 234-722-4  
 RTECS: QA5076000 / QA4900000 MFCD: 00167059  
 KE No.: not listed  
 Concentration: 0,5 - <2 % Correlation factor: x 0.58 (= %Mo)  
 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: *sulfuric acid* CAS No.: 7664-93-9  
 Classification: H314, Skin Corr. 1B  
 Formula:  $H_2SO_4 \cdot (H_2O)$   
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119458838-20-xxxx  
 EC No.: 231-639-5 Indice No.: 016-020-00-8  
 RTECS: WS5600000  
 KE No.: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
 Concentration: 5 - <15 %  
 acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

**25 mL PO<sub>4</sub>-2**

Chemical: *sodium disulfite* CAS No.: 7681-57-4  
 Classification: H302, Acute Tox. 4 oral, H318, Eye Dam. 1, EUH031, 031 not defined  
 Formula:  $Na_2O_5S_2$   
 Pseudonym: sodium metabisulphite, sodium pyrosulfite  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119531326-45-xxxx  
 EC No.: 231-673-0 Indice No.: 016-063-00-2  
 RTECS: UX8225000  
 KE No.: KE-12701  
 Concentration: 10 - <25 %  
 acc. CLP (GHS): H318, Eye Dam. 1, EUH031, 031 not defined

**15 mL O<sub>2</sub>-1**



# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 19/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

Chemical: *manganese chloride* CAS No.: 7773-01-5  
 Classification: H301, Acute Tox. 3 oral, H411, Aquatic Chronic 2  
 Formula:  $MnCl_2$   
 Pseudonym: manganese dichloride  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119934899-15-xxxx  
 EC No.: 231-869-6  
 RTECS: OO9625000  
 KE No.: KE-23012  
 Concentration: 25 - <50 % Correlation factor: x 0.44 (= %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): H302, Acute Tox. 4 oral, H411, Aquatic Chronic 2

### 15 mL O<sub>2</sub>-2

Chemical: *sodium hydroxide solution* CAS No.: 1310-73-2  
 Classification: H290, Met. Corr. 1, H314, Skin Corr. 1B  
 Formula:  $NaOH \cdot H_2O$   
 Pseudonym: soda lye  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119457892-27-xxxx  
 EC No.: 215-185-5 Indice No.: 011-002-00-6  
 RTECS: WB4900000  
 KE No.: KE-31487  
 Concentration: 20 - <35 %  
 acc. CLP (GHS): H290, Met. Corr. 1, H314, Skin Corr. 1B

### 30 mL O<sub>2</sub>-3

Chemical: *4-hydroxy-1,3-phenyldiammonium dichloride* CAS No.: 137-09-7  
 Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H334, Resp. 1  
 Formula:  $C_6H_{10}Cl_2N_2O$   
 Pseudonym: Amidol; 2,4-diamino-phenol, dihydrochloride  
 TSCA Inventory: listed  
 EC No.: 205-279-4  
 RTECS: SK7600000 MFCD: 00012979  
 Concentration: 1 - <10 %  
 acc. CLP (GHS): H317, Skin Sens. 1, H334, Resp. Sens. 1

Chemical: *sulfuric acid* CAS No.: 7664-93-9  
 Classification: H314, Skin Corr. 1B  
 Formula:  $H_2SO_4 (\cdot H_2O)$   
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119458838-20-xxxx  
 EC No.: 231-639-5 Indice No.: 016-020-00-8  
 RTECS: WS5600000  
 KE No.: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
 Concentration: 80 - <98 %  
 acc. CLP (GHS): H314, Skin Corr. 1B

### 25 mL SiO<sub>2</sub>-3

Chemical: *sodium disulfite* CAS No.: 7681-57-4  
 Classification: H302, Acute Tox. 4 oral, H318, Eye Dam. 1, EUH031, 031 not defined  
 Formula:  $Na_2O_5S_2$   
 Pseudonym: sodium metabisulphite, sodium pyrosulfite  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119531326-45-xxxx  
 EC No.: 231-673-0 Indice No.: 016-063-00-2  
 RTECS: UX8225000  
 KE No.: KE-12701  
 Concentration: 10 - <25 %  
 acc. CLP (GHS): H318, Eye Dam. 1, EUH031, 031 not defined

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

# Safety Data Sheet

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

REF: 934127      Photometer PF-3 Fish, case      Page: 20/46  
 Printing date: 01.10.2019      Date of issue: 20.05.2019

Chemical: *oxalic acid*      CAS No.: 144-62-7  
 Classification: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H318, Eye Dam. 1  
 Formula:  $C_2H_2O_4$ ; HOOC-COOH  
 Pseudonym: ethanedioic acid  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119534576-33-xxxx  
 EC No.: 205-634-3      Indice No.: 607-006-00-8  
 RTECS: RO2450000  
 KE No.: KE-13152  
 Concentration: 1 - <5 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

### 25 mL SiO<sub>2</sub> -1

Chemical: *ammonium heptamolybdate*      CAS No.: 12054-85-2  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $H_{24}Mo_7N_6O_{24}$   
 Pseudonym: hexaammonium heptamolybdate  
 TSCA Inventory: listed (CAS 11098-84-3)  
 REACH Reg. No.: 01-2119498057-28-xxxx  
 EC No.: 234-722-4  
 RTECS: QA5076000 / QA4900000      MFCD: 00167059  
 KE No.: not listed  
 Concentration: 2 - <5 %      Correlation factor: x 0.58 (= %Mo)  
 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: *sulfuric acid*      CAS No.: 7664-93-9  
 Classification: H314, Skin Corr. 1B  
 Formula:  $H_2SO_4 \cdot (H_2O)$   
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119458838-20-xxxx  
 EC No.: 231-639-5      Indice No.: 016-020-00-8  
 RTECS: WS5600000  
 KE No.: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
 Concentration: 5 - <15 %  
 acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

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

Chemical: *potassium iodide*      CAS No.: 7681-11-0  
 Classification: H319, Eye Irrit. 2  
 Formula: KI  
 TSCA Inventory: listed  
 REACH Reg. No.: YES, confidential  
 EC No.: 231-659-4  
 RTECS: TT29750000      MFCD: 00011405  
 KE No.: not listed  
 Concentration: 1 - <10 %  
 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 16.1

## 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. Take to a doctor, in a raised position if there are breathing difficulties.

#### 4.1.1 After SKIN Contact

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.

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 21/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

- 4.1.2 After EYE Contact**  
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. Administer a Dexamethasone spray as soon as possible. Ensure quiet, warmth, and provide resuscitation if necessary. In the event of respiratory distress ensure that the patient inhales oxygen. Secure the breathing, heart and circulatory function. ---
- 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**  
Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled. ---
- 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 to 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. Inform patient respectively further measures and the possibility of long-term damages. ---

## 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**  
WARNING: Flammable (GHS regulation). May form explosive vapour-air mixtures. DANGER: Highly flammable (GHS regulation). Forms explosive vapour-air mixtures. 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, contains only small amounts of these substances
- 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 ---

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 22/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.

### 7.2 Conditions for safe storage, including any incompatibilities

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

Storage class (VCI): 3  
Water hazard class (DE): 3

### 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.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### 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.: -

#### 30 mL Cu-1

Chemical: *citrate buffer solution*

CAS No.: -

#### 20 mL Cu-2

Chemical: *oxalic acid bis(cyclohexylidenehydrazide)*

CAS No.: 370-81-0

Chemical: *dimethyl sulfoxide*

CAS No.: 67-68-5

DNEL: 394<sub>inh</sub> mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 17 mg/L  
PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 50 ppm / 160 mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 2 (I), H, Z  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 50 ppm / 160 mg/m<sup>3</sup>

#### 17 mL Fe-1

Chemical: *triazine derivat*

CAS No.: -

Chemical: *acetate buffer solution*

CAS No.: -

#### 5 g Fe-2

Chemical: *L(+)-ascorbic acid*

CAS No.: 50-81-7

Chemical: *sodium chloride*

CAS No.: 7647-14-5

#### 10 mL Indicator m

Chemical: *methyl red (pH indicator)*

CAS No.: 493-52-7

Chemical: *ethanol*

CAS No.: 64-17-5

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 0.96 mg/L  
PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 200 mL/m<sup>3</sup> / 380 mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 4 (II), Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 500 ppm / 960 mg/m<sup>3</sup>  
NIOSH: [TWA] 1000 ppm / 1900 mg/m<sup>3</sup>

www.mn-net.com

# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 23/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period  
 OSHA: [TWA] 1000 ppm / 1900 mg/m<sup>3</sup>

Chemical: *indicator dye(s)* CAS No.: -

**50 capsules NANOFIX pH 6.5-8.2**

Chemical: *phenolred, sodium salt (pH indicator)* CAS No.: 34487-61-1

**100 mL P-1**

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2

TRGS 900 (DE): [Mo] 5 E mg/m<sup>3</sup>  
 E/e respirable

SUVA(CH) MAK value: [Mo] 5 e mg/m<sup>3</sup>

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

DNEL: [inh] 50 µg/m<sup>3</sup>  
 DNEL = Derived No-Effect Level (for workers)

PNEC<sup>(fresh water)</sup>: 2.5 µg/L  
 PNEC = Predicted No Effect Concentration

EU value: 0.1 e mg/m<sup>3</sup>

TRGS 900 (DE): 0.1 E mg/m<sup>3</sup>  
 E/e respirable

Short-term exposure factor: 1 (I), Y  
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 0,1 e mg/m<sup>3</sup>

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>

**100 mL P-2**

Chemical: *sodium disulfite* CAS No.: 7681-57-4

DNEL: [inh] 225 mg/m<sup>3</sup>  
 DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): -  
 E/e respirable

SUVA(CH) MAK value: 5 e mg/m<sup>3</sup>

NIOSH: [TWA] 5 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: none

**100 test strips**

Chemical: *cellulose* 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 < 1%* CAS No.: -

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

**100 mL TL AL 7**

Chemical: *hydrochloric acid* CAS No.: 7647-01-0

DNEL: [inh] 8 mg/m<sup>3</sup>  
 DNEL = Derived No-Effect Level (for workers)

PNEC<sup>(fresh water)</sup>: 36 µg/L  
 PNEC = Predicted No Effect Concentration

EU value: [TWA] 5 ppm / 8 mg/m<sup>3</sup>; [STEL] 10 ppm/ 15 mg/m<sup>3</sup>

TRGS 900 (DE): 2 mL/m<sup>3</sup> / 3 mg/m<sup>3</sup>  
 E/e respirable

Short-term exposure factor: 2 (I), Y  
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 2 ppm / 3\* mg/m<sup>3</sup>

NIOSH: [C] 5 ppm / 7 mg/m<sup>3</sup>



# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 24/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

[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 = 5000 lbs) n/a; TWA 5 ppm / 7 mg/m<sup>3</sup>

**28 g Cl<sub>2</sub> -1**

Chemical: *boric acid* CAS No.: 10043-35-3

DNEL: [derm] 392 mg/kg bw/day; [inh] 8.3 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 2.9 mg/L  
PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 0.5 E mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 2 (I), Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: [Bor][MAK] 1,8e/[STEL] 1,8e mg/m<sup>3</sup>

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: *tri-sodium citrate* CAS No.: 6132-04-3

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: *potassium dihydrogen phosphate* CAS No.: 7778-77-0

**30 mL NH<sub>4</sub> -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>

Chemical: *tri-sodium citrate* CAS No.: 6132-04-3

**2,5 g NH<sub>4</sub> -2**

Chemical: *dichloroisocyanuric acid, Na salt* CAS No.: 2893-78-9

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: *sodium chloride* CAS No.: 7647-14-5

**6 mL NH<sub>4</sub> -3**

Chemical: *sodium nitroprusside* CAS No.: 13755-38-9

Chemical: *ethanol* CAS No.: 64-17-5

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 0.96 mg/L  
PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 200 mL/m<sup>3</sup> / 380 mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 4 (II), Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 500 ppm / 960 mg/m<sup>3</sup>

NIOSH: [TWA] 1000 ppm / 1900 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] 1000 ppm / 1900 mg/m<sup>3</sup>





# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 25/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

Chemical: *thymol* CAS No.: 89-83-8

**30 mL NO<sub>3</sub> -1**

Chemical: *m-phenylenediammonium dichloride* CAS No.: 541-69-5

TRGS 900 (DE): - (0.1E<sub>alt</sub>) mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 2 (II)  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

Chemical: *citric acid* CAS No.: 77-92-9

PNEC<sub>(fresh water)</sub>: 440 mg/L  
PNEC = Predicted No Effect Concentration

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

Short-term exposure factor: 2 (I) Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

**5 g NO<sub>3</sub> -2**

Chemical: *zinc powder (stabilized)* CAS No.: 7440-66-6

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

TRGS 900 (DE): 0.1A / 2E mg/m<sup>3</sup>  
E/e respirable

**30 mL NO<sub>2</sub> -1**

Chemical: *sulfanilamide* CAS No.: 63-74-1

Chemical: *o-phosphoric acid* CAS No.: 7664-38-2

DNEL: 2.92 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

EU value: [TWA] 1 / [STEL] 2 mg/m<sup>3</sup>  
TRGS 900 (DE): [8h] 1 / [15min] 2 mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 2 (I), Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 1 mg/m<sup>3</sup>

NIOSH: TWA 1 / ST 3 mg/m<sup>3</sup>

NIOSH STEL: 3 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>

**5 g NO<sub>2</sub> -2**

Chemical: *N-(1-naphthyl)-ethylenediamine dihydrochloride* CAS No.: 1465-25-4

Chemical: *citric acid* CAS No.: 77-92-9

PNEC<sub>(fresh water)</sub>: 440 mg/L  
PNEC = Predicted No Effect Concentration

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

Short-term exposure factor: 2 (I) Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

**25 mL PO<sub>4</sub> -1**

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2

TRGS 900 (DE): [Mo] 5 E mg/m<sup>3</sup>  
E/e respirable

SUVA(CH) MAK value: [Mo] 5 e mg/m<sup>3</sup>

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

DNEL: [inh] 50 µg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 2.5 µg/L  
PNEC = Predicted No Effect Concentration

EU value: 0.1 e mg/m<sup>3</sup>

TRGS 900 (DE): 0.1 E mg/m<sup>3</sup>

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 26/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

E/e respirable  
 Short-term exposure factor: 1 (I), Y  
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded  
 SUVA(CH) MAK value: 0,1 e mg/m<sup>3</sup>  
 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>

**25 mL PO<sub>4</sub> -2**

Chemical: *sodium disulfite* CAS No.: 7681-57-4  
 DNEL: [inh] 225 mg/m<sup>3</sup>  
 DNEL = Derived No-Effect Level (for workers)  
 TRGS 900 (DE): -  
 E/e respirable  
 SUVA(CH) MAK value: 5 e mg/m<sup>3</sup>  
 NIOSH: [TWA] 5 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: none

**15 mL O<sub>2</sub> -1**

Chemical: *manganese chloride* CAS No.: 7773-01-5  
 EU value: [TWA] 0.2E<sub>Mn</sub> / 0.05A<sub>Mn</sub> mg/m<sup>3</sup>  
 TRGS 900 (DE): 0.02<sub>Mn</sub> A; 0.2<sub>Mn</sub> E mg/m<sup>3</sup>  
 E/e respirable  
 Short-term exposure factor: 8 (II), Y  
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded  
 SUVA(CH) MAK value: 0,5 e mg/m<sup>3</sup>  
 TRGS 903 (DE): nicht mehr gelistet  
 B blood, U urine, a no limitation, b end of exposition or shift  
 NIOSH: [TWA] 1/ [STEL] 3 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: 5 mg/m<sup>3</sup>

**15 mL O<sub>2</sub> -2**

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>

**30 mL O<sub>2</sub> -3**

Chemical: *4-hydroxy-1,3-phenyldiammonium dichloride* CAS No.: 137-09-7  
 Chemical: *sulfuric acid* CAS No.: 7664-93-9  
 DNEL: [inh] 50 µg/m<sup>3</sup>  
 DNEL = Derived No-Effect Level (for workers)  
 PNEC<sub>(fresh water)</sub>: 2.5 µg/L  
 PNEC = Predicted No Effect Concentration  
 EU value: 0.1 e mg/m<sup>3</sup>  
 TRGS 900 (DE): 0.1 E mg/m<sup>3</sup>  
 E/e respirable  
 Short-term exposure factor: 1 (I), Y  
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded  
 SUVA(CH) MAK value: 0,1 e mg/m<sup>3</sup>  
 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>



# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 27/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

### 25 mL SiO<sub>2</sub> -3

Chemical: *sodium disulfite*

CAS No.: 7681-57-4

DNEL: [inh] 225 mg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): -

E/e respirable

SUVA(CH) MAK value: 5 e mg/m<sup>3</sup>

NIOSH: [TWA] 5 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: none

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

Chemical: *oxalic acid*

CAS No.: 144-62-7

DNEL: 4.03<sub>inh</sub> mg/kg

DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 0,1622 mg/L

PNEC = Predicted No Effect Concentration

EU value: 1 e mg/m<sup>3</sup>

TRGS 900 (DE): 1 E mg/m<sup>3</sup>

E/e respirable

Short-term exposure factor: 1 (I), H

skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 1 e mg/m<sup>3</sup>

NIOSH: TWA 1 / ST 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 1 mg/m<sup>3</sup>

### 25 mL SiO<sub>2</sub> -1

Chemical: *ammonium heptamolybdate*

CAS No.: 12054-85-2

TRGS 900 (DE): [Mo] 5 E mg/m<sup>3</sup>

E/e respirable

SUVA(CH) MAK value: [Mo] 5 e mg/m<sup>3</sup>

Chemical: *sulfuric acid*

CAS No.: 7664-93-9

DNEL: [inh] 50 µg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 2.5 µg/L

PNEC = Predicted No Effect Concentration

EU value: 0.1 e mg/m<sup>3</sup>

TRGS 900 (DE): 0.1 E mg/m<sup>3</sup>

E/e respirable

Short-term exposure factor: 1 (I), Y

skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 0,1 e mg/m<sup>3</sup>

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>

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

Chemical: *potassium iodide*

CAS No.: 7681-11-0

## 8.2 Exposure controls

The highest level of cleanliness must be maintained at the workplace.

### 8.2.1 Respiratory protection

Use for open access of these substances for example a protection filter, class A/AX. 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.

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 28/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

**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

**Alkaline Manganese Batteries Type AA**

Appearance: solid                      Colour: black                      Odor: odorless

**Button cell CR2032, built-in**

Appearance: solid                      Colour: colored                      Odor: odorless  
 Flammability (solid, gas):              Do not transport damaged batteries. Special instruction necessary

**30 mL Cu-1**

Appearance: liquid                      Colour: colourless                      Odor: aminic  
 pH:    8-9

**20 mL Cu-2**

Appearance: liquid                      Colour: slightly yellow                      Odor: fusty, mouldy  
 Flash point:                                      95 °C

**17 mL Fe-1**

Appearance: liquid                      Colour: slightly yellow                      Odor: acetic  
 pH:    4-6

**5 g Fe-2**

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

**10 mL Indicator m**

Appearance: liquid                      Colour: red                                      Odor: alcoholic  
 pH:    6-8  
 Flash point:                                      22,5 °C  
 Specific gravity:                                      0,89 g/cm<sup>3</sup>  
 Solubility in water:                                      0-100 %

**50 capsules NANOFIX pH 6.5-8.2**

Appearance: solid (lyoph.)                      Colour: red                                      Odor: odorless  
 pH:    7,0  
 Solubility in water:                                      0-100 %

**100 mL P-1**

Appearance: liquid                      Colour: colourless                      Odor: odorless  
 pH:    0-1  
 Specific gravity:                                      1,21 g/cm<sup>3</sup>  
 Solubility in water:                                      0-100 %

**100 mL P-2**

Appearance: liquid                      Colour: colourless                      Odor: penetrative  
 pH:    5-7  
 Solubility in water:                                      0-100 %

**100 test strips**

Appearance: solid                      Colour: colored                      Odor: odorless

**100 mL TL AL 7**

Appearance: liquid                      Colour: colourless                      Odor: odorless  
 pH:    1-2  
 Specific gravity:                                      1,00 g/cm<sup>3</sup>  
 Solubility in water:                                      0-100 %



# Safety Data Sheet

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

REF: 934127	Photometer PF-3 Fish, case	Page: 29/46
Printing date: 01.10.2019	Date of issue: 20.05.2019	

<b>28 g Cl<sub>2</sub> -1</b> Appearance: powder (solid) pH: Solubility in water:	Colour: colourless 6 0-100 %	Odor: odorless
<b>30 mL NH<sub>4</sub> -1</b> Appearance: liquid pH:	Colour: colourless 11,5-12,5	Odor: odorless
<b>2,5 g NH<sub>4</sub> -2</b> Appearance: powder (solid) pH:	Colour: colourless 5-7	Odor: chloric
<b>6 mL NH<sub>4</sub> -3</b> Appearance: liquid pH: Flash point: Specific gravity:	Colour: rose 6-8 23 °C 0,9 g/cm <sup>3</sup>	Odor: organic
<b>30 mL NO<sub>3</sub> -1</b> Appearance: liquid pH:	Colour: rose 2-3	Odor: odorless
<b>5 g NO<sub>3</sub> -2</b> Appearance: powder (solid) pH:	Colour: slightly grey 6,5-7,5	Odor: odorless
<b>30 mL NO<sub>2</sub> -1</b> Appearance: liquid pH: Specific gravity:	Colour: colourless 2-3 1,04 g/cm <sup>3</sup>	Odor: odorless
<b>5 g NO<sub>2</sub> -2</b> Appearance: powder (solid) pH:	Colour: colourless 2-3	Odor: odorless
<b>25 mL PO<sub>4</sub> -1</b> Appearance: liquid pH: Specific gravity:	Colour: colourless 1-2 1,07 g/cm <sup>3</sup>	Odor: odorless
<b>25 mL PO<sub>4</sub> -2</b> Appearance: liquid pH:	Colour: colourless 6-7	Odor: sulfuric
<b>15 mL O<sub>2</sub> -1</b> Appearance: liquid pH: Solubility in water:	Colour: rose 5-7 0-100 %	Odor: odorless
<b>15 mL O<sub>2</sub> -2</b> Appearance: liquid pH: Specific gravity:	Colour: colourless 14 1,28 g/cm <sup>3</sup>	Odor: odorless
<b>30 mL O<sub>2</sub> -3</b> Appearance: liquid pH: Specific gravity:	Colour: colourless 0 1,77 g/cm <sup>3</sup>	Odor: odorless

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 30/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

## 25 mL SiO<sub>2</sub> -3

Appearance: liquid

Colour: colourless

Odor: penetrative

pH: 5-7

Solubility in water:

0-30 %

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

Appearance: liquid

Colour: colourless

Odor: odorless

pH: 3-5

Specific gravity:

1,02 g/cm<sup>3</sup>

## 25 mL SiO<sub>2</sub> -1

Appearance: liquid

Colour: colourless

Odor: odorless

pH: 0-1

Specific gravity:

1,05 g/cm<sup>3</sup>

Solubility in water:

0-50 %

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

Appearance: liquid

Colour: colourless

Odor: odorless

pH: 9

Solubility in water:

0-100 %

## 9.2 Other information

### Relevant Properties of Substance Group

Substances are very volatile and form flammable vapour-air mixtures. ---

## 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.

### 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 - 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 substances. Quantitative data on the toxicity of this product are not available.

#### 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.: -

#### 30 mL Cu-1

Chemical: *citrate buffer solution*

CAS No.: -

TSCA Inventory: all listed

Korea Exist.Chem.Inventory: listed

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 31/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

## 20 mL Cu-2

Chemical: *oxalic acid bis(cyclohexylidenehydrazide)* CAS No.: 370-81-0  
TSCA Inventory: listed

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5  
TSCA Inventory: listed  
Korea Exist.Chem.Inventory: KE-32367  
LD50<sub>orl rat</sub>: 14.5 g/kg  
LD50<sub>drm rat</sub>: 40 g/kg

## 17 mL Fe-1

Chemical: *triazine derivate* CAS No.: -  
TSCA Inventory: listed

Chemical: *acetate buffer solution* CAS No.: -  
TSCA Inventory: all listed  
Korea Exist.Chem.Inventory: listed

## 5 g Fe-2

Chemical: *L(+)-ascorbic acid* CAS No.: 50-81-7  
TSCA Inventory: listed  
Korea Exist.Chem.Inventory: KE-01947  
LD50<sub>orl rat</sub>: 11900 mg/kg  
LD50<sub>ivn mus</sub>: 518 mg/kg

Chemical: *sodium chloride* CAS No.: 7647-14-5  
TSCA Inventory: listed  
Korea Exist.Chem.Inventory: KE-31387  
LD50<sub>orl rat</sub>: 3000 mg/kg  
LD50<sub>drm rbt</sub>: 10 g/kg

## 10 mL Indicator m

Chemical: *methyl red (pH indicator)* CAS No.: 493-52-7  
TSCA Inventory: listed  
Korea Exist.Chem.Inventory: KE-06693

Chemical: *ethanol* CAS No.: 64-17-5  
TSCA Inventory: listed California Proposition 65 List: not listed  
ACGIH: 1000 ppm  
Exposure Routes: inhalation, ingestion, skin and/or eye contact  
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system  
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;  
liver damage; anemia; reproductive, teratogenic  
Australia NICNAS: not listed Canada CEPA 1999: DSL yes  
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed  
Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)  
South Korea TCCA: not listed  
Korea Exist.Chem.Inventory: KE-13217  
LD50<sub>orl rat</sub>: 6200 mg/kg  
LC<sub>LoWihl</sub> gpg: 21.9 g/m<sup>3</sup>  
LC<sub>LoWorl</sub> hmn: 1400 mg/kg  
LC50<sub>ihl mouse</sub>: [4h] 39 g/m<sup>3</sup>  
LC50<sub>ihl rat</sub>: [10h] 20 g/m<sup>3</sup>  
LD50<sub>drm rbt</sub>: 20 000 mg/kg  
LD50<sub>oral mouse</sub>: 3450 mg/kg  
TRGS 905 (DE): K5, M5, R<sub>F</sub> C

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 32/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

Chemical: *indicator dye(s)* CAS No.: -  
 TSCA Inventory: all listed, <1%

## 50 capsules NANOFIX pH 6.5-8.2

Chemical: *phenolred, sodium salt (pH indicator)* CAS No.: 34487-61-1  
 TSCA Inventory: listed

## 100 mL P-1

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2  
 TSCA Inventory: listed (CAS 11098-84-3)  
 Japan ISHL: listed ≥1,0%/≥0,1%,  
 Korea Exist.Chem.Inventory: not listed

Chemical: *sulfuric acid* CAS No.: 7664-93-9  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 ACGIH: 1 ppm  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system, teeth  
 Symptoms: irritation eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis;  
 dental erosion; eye, skin burns; dermatitis  
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: 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-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
 LD50<sub>orl rat</sub>: 2140 mg/kg  
 LC50<sub>ihl rat</sub>: [8h] 600/ [4h] 850 mg/m<sup>3</sup>  
 TRGS 905 (DE): Kat 4

## 100 mL P-2

Chemical: *sodium disulfite* CAS No.: 7681-57-4  
 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  
 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-12701  
 LD50<sub>orl rat</sub>: 1540 mg/kg  
 LD50<sub>drm rat</sub>: 2000 mg/kg

## 100 test strips

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<sub>orl rat</sub>: >5000 mg/kg  
 LC50<sub>ihl rat</sub>: >5800<sub>4h</sub> mg/m<sup>3</sup>  
 LD50<sub>drm rbt</sub>: >2000 mg/kg



# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 33/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

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

## 100 mL TL AL 7

Chemical: *hydrochloric acid* CAS No.: 7647-01-0  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 Exposure Routes: inhalation, ingestion (solution), skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system  
 Symptoms: irritation nose, throat, larynx; cough, choking; dermatitis; solution: eye, skin burns; liquid: frostbite; in animals: laryngeal spasm; pulmonary ede  
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance  
 Japan ISHL: listed ≥0,2%/≥0,1%, Article 57-2 (SDS required)  
 South Korea TCCA: Accident Precaution Chemical Yes  
 Korea Exist.Chem.Inventory: KE-20189, >10% Toxic 97-1-203, Acc. Precaution Chem.  
 LD50<sub>orl rat</sub>: 900 mg/kg  
 LC50<sub>drm rbt</sub>: >5010 mg/kg

## 28 g Cl<sub>2</sub> -1

Chemical: *boric acid* CAS No.: 10043-35-3  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes  
 Japan CSCL/PRTR: PRTR: ≥1,0%B class I, Japan PDSCL: not listed  
 Japan ISHL: not listed  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-03499  
 LD50<sub>orl rat</sub>: >3765 mg/kg  
 LC50<sub>ihl rat</sub>: > 2 mg/m<sup>3</sup>  
 LD50<sub>drm rat</sub>: >2000 mg/kg  
 EU carcinogen: R<sub>D</sub> 1B, R<sub>F</sub> 1B  
 TRGS 905 (DE): R<sub>E</sub> 2, R<sub>F</sub> 2

Chemical: *tri-sodium citrate* CAS No.: 6132-04-3  
 TSCA Inventory: listed (CAS 68-04-2)  
 Korea Exist.Chem.Inventory: KE-20843  
 LD50<sub>orl rat</sub>: >8000 mg/kg

Chemical: *N,N-Diethyl-1,4-phenylene diammonium sulfate* CAS No.: 6283-63-2  
 TSCA Inventory: listed (CAS 6065-27-6) California Proposition 65 List: not listed  
 Australia NICNAS: not listed Canada CEPA 1999: not listed  
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed  
 Japan ISHL: not listed  
 South Korea TCCA: not listed  
 LD50<sub>orl rat</sub>: 497 mg/kg

Chemical: *potassium dihydrogen phosphate* CAS No.: 7778-77-0  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-28622  
 LD50<sub>orl rat</sub>: 4640 mg/kg  
 LD50<sub>drm rbt</sub>: >4640 mg/kg

## 30 mL NH<sub>4</sub> -1

Chemical: *sodium hydroxide solution* 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

# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 34/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

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 PDSCCL: not listed  
 Japan ISHL: listed  $\geq 1,0\%$ / $\geq 1,0\%$ , Article 57-2 (SDS required)  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-31487  
 LD50<sub>orl rat</sub>: [40%] 1250 / [ $<25\%$ ]  $>2000$  mg/kg  
 LD50<sub>orl mus</sub>: 40 mg/kg

Chemical: *tri-sodium citrate* CAS No.: 6132-04-3  
 TSCA Inventory: listed (CAS 68-04-2)  
 Korea Exist.Chem.Inventory: KE-20843  
 LD50<sub>orl rat</sub>:  $>8000$  mg/kg

## 2,5 g NH<sub>4</sub> -2

Chemical: *dichloroisocyanuric acid, Na salt* CAS No.: 2893-78-9  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCCL: not listed  
 Japan ISHL: not listed  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-10215,  $>25\%$  Toxic 2014-1-688  
 LD50<sub>orl rat</sub>: 550-1600 mg/kg  
 LC<sub>LoWorl hmn</sub>: 3570 mg/kg  
 LD50<sub>drm rbt</sub>:  $>5000$  mg/kg

Chemical: *sodium chloride* CAS No.: 7647-14-5  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-31387  
 LD50<sub>orl rat</sub>: 3000 mg/kg  
 LD50<sub>drm rbt</sub>: 10 g/kg

## 6 mL NH<sub>4</sub> -3

Chemical: *sodium nitroprusside* CAS No.: 13755-38-9  
 TSCA Inventory: listed (CAS 14402-89-2)  
 Korea Exist.Chem.Inventory: not listed  
 LD50<sub>orl rat</sub>: 99 mg/kg  
 LC<sub>LoWorl rat</sub>: 20 mg/kg

Chemical: *ethanol* CAS No.: 64-17-5  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 ACGIH: 1000 ppm  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system  
 Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;  
 liver damage; anemia; reproductive, teratogenic  
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes  
 Japan CSCL/PRTR: not listed, Japan PDSCCL: not listed  
 Japan ISHL: listed  $\geq 0,1\%$ / $\geq 0,1\%$ , Article 57-2 (SDS required)  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-13217  
 LD50<sub>orl rat</sub>: 6200 mg/kg  
 LC<sub>LoWihl gpg</sub>: 21.9 g/m<sup>3</sup>  
 LC<sub>LoWorl hmn</sub>: 1400 mg/kg  
 LC50<sub>ihl mouse</sub>: [4h] 39 g/m<sup>3</sup>  
 LC50<sub>ihl rat</sub>: [10h] 20 g/m<sup>3</sup>  
 LD50<sub>drm rbt</sub>: 20 000 mg/kg  
 LD50<sub>oral mouse</sub>: 3450 mg/kg  
 TRGS 905 (DE): K5, M5, R<sub>F</sub> C

# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 35/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

Chemical: *thymol* CAS No.: 89-83-8  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-24420  
 LD50<sub>orl rat</sub>: 980 mg/kg  
 LD50<sub>drm rat</sub>: > 2000 mg/kg

### 30 mL NO<sub>3</sub> -1

Chemical: *m-phenylenediammonium dichloride* CAS No.: 541-69-5  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-05-1004, >25% Toxic 97-1-334  
 LD50<sub>orl rat</sub>: 280 mg/kg  
  
 EU carcinogen: mut. 3  
 TRGS 905 (DE): K3B, M3  
 TRGS 907 (DE): Sh

Chemical: *citric acid* CAS No.: 77-92-9  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-20831  
 LD50<sub>orl rat</sub>: >3000 mg/kg  
 LC50<sub>ihl rat</sub>: 5800 mg/m<sup>3</sup>  
 LD50<sub>drm rat</sub>: >2000 mg/kg  
 LD50<sub>orl mus</sub>: 5400 mg/kg  
 LD50<sub>scu rat</sub>: 5500 mg/kg

### 5 g NO<sub>3</sub> -2

Chemical: *zinc powder (stabilized)* CAS No.: 7440-66-6  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-35518  
 LD50<sub>orl rat</sub>: >2000 mg/kg  
 LC<sub>LoWinh hmn</sub>: 124<sub>50min</sub> mg/m<sup>3</sup>  
 LC50<sub>ihl rat</sub>: >5.4<sub>4h</sub> mg/m<sup>3</sup>

### 30 mL NO<sub>2</sub> -1

Chemical: *sulfanilamide* CAS No.: 63-74-1  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-01188  
 LD50<sub>orl rat</sub>: 3900 mg/kg

Chemical: *o-phosphoric acid* CAS No.: 7664-38-2  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 ACGIH: 1 ppm  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system  
 Symptoms: irritation eyes, skin, upper respiratory system; eye, skin, burns; dermatitis  
 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-27427  
 LD50<sub>orl rat</sub>: 1530 mg/kg  
 LC50<sub>ihl rbt</sub>: 1.689 mg/L  
 LD50<sub>drm rbt</sub>: 2750 mg/kg  
  
 TRGS 905 (DE): R<sub>F</sub> C

### 5 g NO<sub>2</sub> -2

Chemical: *N-(1-naphthyl)-ethylendiamine dihydrochloride* CAS No.: 1465-25-4  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: not listed

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 36/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

Chemical: *citric acid* CAS No.: 77-92-9  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-20831  
 LD50<sub>orl rat</sub>: >3000 mg/kg  
 LC50<sub>ihl rat</sub>: 5800 mg/m<sup>3</sup>  
 LD50<sub>drm rat</sub>: >2000 mg/kg  
 LD50<sub>orl mus</sub>: 5400 mg/kg  
 LD50<sub>scu rat</sub>: 5500 mg/kg

## 25 mL PO<sub>4</sub> -1

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2  
 TSCA Inventory: listed (CAS 11098-84-3)  
 Japan ISHL: listed ≥1,0%/≥0,1%,  
 Korea Exist.Chem.Inventory: not listed

Chemical: *sulfuric acid* CAS No.: 7664-93-9  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 ACGIH: 1 ppm  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system, teeth  
 Symptoms: irritation eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis;  
 dental erosion; eye, skin burns; dermatitis  
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: 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-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
 LD50<sub>orl rat</sub>: 2140 mg/kg  
 LC50<sub>ihl rat</sub>: [8h] 600/ [4h] 850 mg/m<sup>3</sup>  
 TRGS 905 (DE): Kat 4

## 25 mL PO<sub>4</sub> -2

Chemical: *sodium disulfite* CAS No.: 7681-57-4  
 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  
 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-12701  
 LD50<sub>orl rat</sub>: 1540 mg/kg  
 LD50<sub>drm rat</sub>: 2000 mg/kg

## 15 mL O<sub>2</sub> -1

Chemical: *manganese chloride* CAS No.: 7773-01-5  
 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%  
 Korea Exist.Chem.Inventory: KE-23012  
 LD50<sub>orl rat</sub>: 250 mg/kg  
 Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

## 15 mL O<sub>2</sub> -2

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 37/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

Chemical: *sodium hydroxide solution* 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  $\geq 1,0\%$ / $\geq 1,0\%$ , Article 57-2 (SDS required)  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-31487  
 LD50<sub>orl rat</sub>: [40%] 1250 / [<25%] >2000 mg/kg  
 LD50<sub>orl mus</sub>: 40 mg/kg

### 30 mL O<sub>2</sub> -3

Chemical: *4-hydroxy-1,3-phenylendiammonium dichloride* CAS No.: 137-09-7  
 TSCA Inventory: listed  
 LD50<sub>orl rat</sub>: 240 mg/kg  
 Acute Effects: Cause after skin contact, impairments of health when ingested in small quantities.  
 Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Chemical: *sulfuric acid* CAS No.: 7664-93-9  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 ACGIH: 1 ppm  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system, teeth  
 Symptoms: irritation eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis; dental erosion; eye, skin burns; dermatitis  
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance  
 Japan ISHL: listed  $\geq 1,0\%$ / $\geq 1,0\%$ , Article 57-2 (SDS required)  
 South Korea TCCA: Accident Precaution Chemical Yes  
 Korea Exist.Chem.Inventory: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
 LD50<sub>orl rat</sub>: 2140 mg/kg  
 LC50<sub>ihl rat</sub>: [8h] 600/ [4h] 850 mg/m<sup>3</sup>  
 TRGS 905 (DE): Kat 4

### 25 mL SiO<sub>2</sub> -3

Chemical: *sodium disulfite* CAS No.: 7681-57-4  
 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  
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed  
 Japan ISHL: listed  $\geq 1,0\%$ / $\geq 1,0\%$ , Article 57-2 (SDS required)  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-12701  
 LD50<sub>orl rat</sub>: 1540 mg/kg  
 LD50<sub>drm rat</sub>: 2000 mg/kg

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

Chemical: *oxalic acid* CAS No.: 144-62-7  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system, kidneys  
 Symptoms: irritation eyes, skin, mucous membrane; eye burns; localized pain, cyanosis; shock, collapse, convulsions; kidney damage  
 Australia NICNAS: listed  $>1,0\%$ / $>1,0\%$ , Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance  
 Japan ISHL: listed  $\geq 1,0\%$ / $\geq 0,1\%$ , Article 57-2 (SDS required)  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-13152  
 LD50<sub>orl rat</sub>: 7.5 g/kg



# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 38/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

LD50<sub>dm</sub> rbt : 20 g/kg

## 25 mL SiO<sub>2</sub> -1

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2  
 TSCA Inventory: listed (CAS 11098-84-3)  
 Japan ISHL: listed ≥1,0%/≥0,1%,  
 Korea Exist.Chem.Inventory: not listed

Chemical: *sulfuric acid* CAS No.: 7664-93-9  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 ACGIH: 1 ppm  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system, teeth  
 Symptoms: irritation eyes, skin, nose, throat; pulmonary edema, bronchitis; emphysema; conjunctivitis; stomatis;  
 dental erosion; eye, skin burns; dermatitis  
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: 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-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
 LD50<sub>orl rat</sub>: 2140 mg/kg  
 LC50<sub>ihl rat</sub>: [8h] 600/ [4h] 850 mg/m<sup>3</sup>  
 TRGS 905 (DE): Kat 4

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

Chemical: *potassium iodide* CAS No.: 7681-11-0  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: not listed  
 LD50<sub>orl rat</sub>: 2779 mg/kg

## SECTION 12: Ecological information

### 12.1 Toxicity

Following information is valid for pure substances.

#### 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.: -

#### 30 mL Cu-1

Chemical: *citrate buffer solution* CAS No.: -  
 Water hazard class (DE): 0  
 Storage class (VCI): 12

#### 20 mL Cu-2

Chemical: *oxalic acid bis(cyclohexylidenehydrazide)* CAS No.: 370-81-0  
 Water hazard class (DE): 3  
 Storage class (VCI): 12

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5  
 PNEC<sub>(fresh water)</sub>: 17 mg/L  
 PNEC = Predicted No Effect Concentration  
 LC50<sub>fish/96h</sub>: 38.5 g/L  
 EC50<sub>daphnia/48h</sub>: 24.6 g/L  
 EC10<sub>pseudomonas putida/16h</sub>: EC/16h: 7100 mg/L  
 Water hazard class (DE): 1 WGK No.: 5050  
 Dispersion coefficient<sub>(octanol-water)</sub>: -1.35  
 Storage class (VCI): 12

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 39/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

## 17 mL Fe-1

Chemical: *triazine derivat* CAS No.: -  
Storage class (VCI): 12-13

Chemical: *acetate buffer solution* CAS No.: -  
Storage class (VCI): 12

## 5 g Fe-2

Chemical: *L(+)-ascorbic acid* CAS No.: 50-81-7  
Water hazard class (DE): 1 WGK No.: 0737  
Storage class (VCI): 13

Chemical: *sodium chloride* CAS No.: 7647-14-5  
Water hazard class (DE): 1  
Storage class (VCI): 12-13

## 10 mL Indicator m

Chemical: *methyl red (pH indicator)* CAS No.: 493-52-7  
Water hazard class (DE): 2  
Storage class (VCI): 12-13

Chemical: *ethanol* CAS No.: 64-17-5  
PNEC<sub>(fresh water)</sub>: 0.96 mg/L  
PNEC = Predicted No Effected Concentration

LC50<sub>daphnia magna/48h</sub>: >100 mg/L  
LC50<sub>pimephales promelas/96h</sub>: 13400 - 15100 mg/L  
LC50<sub>leuciscus idus/96h</sub>: [48h] 8140 mg/L  
LC50<sub>fish/96h</sub>: 13 g/L  
EC50<sub>daphnia/48h</sub>: 9.3-14.2 g/L  
IC50<sub>scenedesmus quadricauda/72h</sub>: [7d] 5000 mg/L  
EC10<sub>pseudomonas putita/16h</sub>: [EC5] 6500 mg/L  
Water hazard class (DE): 1 WGK No.: 0096  
Dispersion coefficient<sub>(octanol-water)</sub>: -0.31  
Storage class (VCI): 3

Chemical: *indicator dye(s)* CAS No.: -  
Storage class (VCI): 12-13

## 50 capsules NANOFIX pH 6.5-8.2

Chemical: *phenolred, sodium salt (pH indicator)* CAS No.: 34487-61-1  
Water hazard class (DE): 2  
Storage class (VCI): 12-13

## 100 mL P-1

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2  
Water hazard class (DE): 1 WGK No.: 0637  
Storage class (VCI): 12-13

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

Avoid contact of substance/mixture to environment.

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  
Water hazard class (DE): 1 WGK No.: 0182  
Storage class (VCI): 8 B

## 100 mL P-2

Chemical: *sodium disulfite* CAS No.: 7681-57-4  
LC50<sub>fish/96h</sub>: 150-220 mg/L  
EC50<sub>daphnia/48h</sub>: 89 mg/L  
IC50<sub>scenedesmus quadricauda/72h</sub>: 48 mg/L  
Water hazard class (DE): 1 WGK No.: 1169  
Storage class (VCI): 8 B

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 40/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

**100 test strips**

Chemical:	<i>cellulose</i>	CAS No.:	9004-34-6
Water hazard class (DE):	nwg		
Storage class (VCI):	11		
Chemical:	<i>chemicals/mixture &lt; 1%</i>	CAS No.:	-
Water hazard class (DE):	1		
Storage class (VCI):	12-13		
Chemical:	<i>PVC foil (CAS 9002-86-2)</i>	CAS No.:	-

**100 mL TL AL 7**

Chemical:	<i>hydrochloric acid</i>	CAS No.:	7647-01-0
PNEC <sub>(fresh water)</sub> :	36 µg/L		
PNEC = Predicted No Effect Concentration			
LC50 <sub>fish/96h</sub> :	24.6 mg/L		
EC50 <sub>daphnia/48h</sub> :	0.492 mg/L		
EC50 <sub>pseudokirchneriella subcapitata/72h</sub> :	0.78 mg/L		
Water hazard class (DE):	1	WGK No.:	0238
Storage class (VCI):	8 B		

**28 g Cl<sub>2</sub> -1**

Chemical:	<i>boric acid</i>	CAS No.:	10043-35-3
PNEC <sub>(fresh water)</sub> :	2.9 mg/L		
PNEC = Predicted No Effect Concentration			
LC50 <sub>fish/96h</sub> :	[4d] 79.7 mg/L		
EC50 <sub>daphnia/48h</sub> :	91-165 mg/L		
IC50 <sub>scenedesmus quadricauda/72h</sub> :	[72h] 52.4 mg/L		
EC10 <sub>pseudomonas putita/16h</sub> :	[EC10] 10 mg/L		
Water hazard class (DE):	1	WGK No.:	0315
Dispersion coefficient <sub>(octanol-water)</sub> :	-1.09		
Storage class (VCI):	6.1 D		

Chemical:	<i>tri-sodium citrate</i>	CAS No.:	6132-04-3
LC50 <sub>fish/96h</sub> :	18-32 g/L		
EC50 <sub>daphnia/48h</sub> :	5.6-10 g/L		
EC50 <sub>chlorella vulgaris/5d</sub> :	>18-32 g/L		
EC10 <sub>pseudomonas putita/16h</sub> :	EC50 <sub>ps. fluorescens/8h</sub> : >1.8-3.2 g/L		
Water hazard class (DE):	1		
Storage class (VCI):	12-13		

Chemical:	<i>N,N-Diethyl-1,4-phenylene diammonium sulfate</i>	CAS No.:	6283-63-2
Water hazard class (DE):	3		
Storage class (VCI):	12-13		

Chemical:	<i>potassium dihydrogen phosphate</i>	CAS No.:	7778-77-0
LC50 <sub>leuciscus idus/96h</sub> :	900 <sub>48h</sub> mg/L		
Water hazard class (DE):	1		
Storage class (VCI):	12-13		

**30 mL NH<sub>4</sub> -1**

Chemical:	<i>sodium hydroxide solution</i>	CAS No.:	1310-73-2
Avoid contact of substance/mixture to environment.			
LC50 <sub>leuciscus idus/96h</sub> :	35-189 mg/L		
LC50 <sub>fish/96h</sub> :	45.4 mg/L		
EC50 <sub>daphnia/48h</sub> :	>100 mg/L		
Water hazard class (DE):	1	WGK No.:	142
Storage class (VCI):	8 B		

Chemical:	<i>tri-sodium citrate</i>	CAS No.:	6132-04-3
LC50 <sub>fish/96h</sub> :	18-32 g/L		
EC50 <sub>daphnia/48h</sub> :	5.6-10 g/L		
EC50 <sub>chlorella vulgaris/5d</sub> :	>18-32 g/L		
EC10 <sub>pseudomonas putita/16h</sub> :	EC50 <sub>ps. fluorescens/8h</sub> : >1.8-3.2 g/L		
Water hazard class (DE):	1		
Storage class (VCI):	12-13		





# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 41/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

## 2,5 g NH<sub>4</sub> -2

Chemical: *dichloroisocyanuric acid, Na salt* CAS No.: 2893-78-9  
 Water hazard class (DE): 3  
 Storage class (VCI): 13

Chemical: *sodium chloride* CAS No.: 7647-14-5  
 Water hazard class (DE): 1  
 Storage class (VCI): 12-13

## 6 mL NH<sub>4</sub> -3

Chemical: *sodium nitroprusside* CAS No.: 13755-38-9  
 Water hazard class (DE): 3  
 Storage class (VCI): 6.1 B

Chemical: *ethanol* CAS No.: 64-17-5  
 PNEC<sub>(fresh water)</sub>: 0.96 mg/L  
 PNEC = Predicted No Effect Concentration

LC50<sub>daphnia magna/48h</sub>: >100 mg/L  
 LC50<sub>pimephales promelas/96h</sub>: 13400 - 15100 mg/L  
 LC50<sub>leuciscus idus/96h</sub>: [48h] 8140 mg/L  
 LC50<sub>fish/96h</sub>: 13 g/L  
 EC50<sub>daphnia/48h</sub>: 9.3-14.2 g/L  
 IC50<sub>scenedesmus quadricauda/72h</sub>: [7d] 5000 mg/L  
 EC10<sub>pseudomonas putita/16h</sub>: [EC5] 6500 mg/L  
 Water hazard class (DE): 1 WGK No.: 0096  
 Dispersion coefficient<sub>(octanol-water)</sub>: -0.31  
 Storage class (VCI): 3

Chemical: *thymol* CAS No.: 89-83-8  
 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).  
 LC50<sub>pimephales promelas/96h</sub>: 3.2 mg/L  
 EC50<sub>daphnia/48h</sub>: 3.2 mg/L  
 Water hazard class (DE): 2 WGK No.: 1220  
 Storage class (VCI): 8 A

## 30 mL NO<sub>3</sub> -1

Chemical: *m-phenylenediammonium dichloride* CAS No.: 541-69-5  
 Water hazard class (DE): 3 WGK No.: 1312  
 Storage class (VCI): 6.1 D

Chemical: *citric acid* CAS No.: 77-92-9  
 PNEC<sub>(fresh water)</sub>: 440 mg/L  
 PNEC = Predicted No Effect Concentration  
 LC50<sub>leuciscus idus/96h</sub>: 440-760 mg/L  
 EC50<sub>daphnia/48h</sub>: 1535<sub>24h</sub> mg/L  
 IC50<sub>scenedesmus quadricauda/72h</sub>: 7d: 425-640 mg/L  
 EC10<sub>pseudomonas putita/16h</sub>: EC0: >10 g/L  
 Water hazard class (DE): 1 WGK No.: 0057  
 Dispersion coefficient<sub>(octanol-water)</sub>: -1.72  
 Storage class (VCI): 12-13

## 5 g NO<sub>3</sub> -2

Chemical: *zinc powder (stabilized)* CAS No.: 7440-66-6  
 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<sub>fish/96h</sub>: 2.01 mg/L  
 EC50<sub>daphnia/48h</sub>: 0.131 mg/L  
 EC50<sub>pseudokirchneriella subcapitata/72h</sub>: IC50: 0.713 mg/L  
 Water hazard class (DE): 2 WGK No.: 7325  
 Storage class (VCI): 13

# Safety Data Sheet

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

REF: 934127 Photometer PF-3 Fish, case Page: 42/46  
 Printing date: 01.10.2019 Date of issue: 20.05.2019

**30 mL NO<sub>2</sub> -1**

Chemical: *sulfanilamide* CAS No.: 63-74-1  
 Water hazard class (DE): 1 WGK No.: n.n.  
 Storage class (VCI): 12-13

Chemical: *o-phosphoric acid* CAS No.: 7664-38-2  
 LC50<sub>fish/96h</sub>: 3-3.5 mg/L  
 Water hazard class (DE): 1 WGK No.: 0392  
 Storage class (VCI): 8 B

**5 g NO<sub>2</sub> -2**

Chemical: *N-(1-naphthyl)-ethylendiamine dihydrochloride* CAS No.: 1465-25-4  
 Water hazard class (DE): 3  
 Storage class (VCI): 13

Chemical: *citric acid* CAS No.: 77-92-9  
 PNEC<sub>(fresh water)</sub>: 440 mg/L  
 PNEC = Predicted No Effect Concentration  
 LC50<sub>leuciscus idus/96h</sub>: 440-760 mg/L  
 EC50<sub>daphnia/48h</sub>: 1535<sub>24h</sub> mg/L  
 IC50<sub>scenedesmus quadricauda/72h</sub>: 7d: 425-640 mg/L  
 EC10<sub>pseudomonas putita/16h</sub>: EC0: >10 g/L  
 Water hazard class (DE): 1 WGK No.: 0057  
 Dispersion coefficient<sub>(octanol-water)</sub>: -1.72  
 Storage class (VCI): 12-13

**25 mL PO<sub>4</sub> -1**

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2  
 Water hazard class (DE): 1 WGK No.: 0637  
 Storage class (VCI): 12-13

Chemical: *sulfuric acid* CAS No.: 7664-93-9  
 PNEC<sub>(fresh water)</sub>: 2.5 µg/L  
 PNEC = Predicted No Effect 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  
 Water hazard class (DE): 1 WGK No.: 0182  
 Storage class (VCI): 8 B

**25 mL PO<sub>4</sub> -2**

Chemical: *sodium disulfite* CAS No.: 7681-57-4  
 LC50<sub>fish/96h</sub>: 150-220 mg/L  
 EC50<sub>daphnia/48h</sub>: 89 mg/L  
 IC50<sub>scenedesmus quadricauda/72h</sub>: 48 mg/L  
 Water hazard class (DE): 1 WGK No.: 1169  
 Storage class (VCI): 8 B

**15 mL O<sub>2</sub> -1**

Chemical: *manganese chloride* CAS No.: 7773-01-5  
 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).  
 Water hazard class (DE): 1 WGK No.: 0494  
 Storage class (VCI): 12

**15 mL O<sub>2</sub> -2**

Chemical: *sodium hydroxide solution* CAS No.: 1310-73-2  
 Avoid contact of substance/mixture to environment.  
 LC50<sub>leuciscus idus/96h</sub>: 35-189 mg/L  
 LC50<sub>fish/96h</sub>: 45.4 mg/L  
 EC50<sub>daphnia/48h</sub>: >100 mg/L  
 Water hazard class (DE): 1 WGK No.: 142  
 Storage class (VCI): 8 B



# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 43/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

### 30 mL O<sub>2</sub> -3

Chemical: *4-hydroxy-1,3-phenyldiammonium dichloride* CAS No.: 137-09-7

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

Avoid contact of substance/mixture to environment.

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

Water hazard class (DE): 1 WGK No.: 0182

Storage class (VCI): 8 B

### 25 mL SiO<sub>2</sub> -3

Chemical: *sodium disulfite* CAS No.: 7681-57-4

LC50<sub>fish/96h</sub> : 150-220 mg/L

EC50<sub>daphnia/48h</sub> : 89 mg/L

IC50<sub>scenedesmus quadricauda/72h</sub> : 48 mg/L

Water hazard class (DE): 1 WGK No.: 1169

Storage class (VCI): 8 B

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

Chemical: *oxalic acid* CAS No.: 144-62-7

PNEC<sub>(fresh water)</sub> : 0,1622 mg/L

PNEC = Predicted No Effected Concentration

LC50<sub>leuciscus idus/96h</sub> : 160 mg/L

EC50<sub>daphnia/48h</sub> : 61<sub>24h</sub> / 162.2 mg/L

EC10<sub>pseudomonas putita/16h</sub> : 1550<sub>16d</sub> mg/L

Water hazard class (DE): 1 WGK No.: 0166

Dispersion coefficient<sub>(octanol-water)</sub> : -1.7

Storage class (VCI): 12

### 25 mL SiO<sub>2</sub> -1

Chemical: *ammonium heptamolybdate* CAS No.: 12054-85-2

Water hazard class (DE): 1 WGK No.: 0637

Storage class (VCI): 12-13

Chemical: *sulfuric acid* 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

Water hazard class (DE): 1 WGK No.: 0182

Storage class (VCI): 8 B

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

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

LC50<sub>fish/96h</sub> : 2190 mg/L

Water hazard class (DE): 1

Dispersion coefficient<sub>(octanol-water)</sub> : 0.04

Storage class (VCI): 12-13

## 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

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 44/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

## 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, 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 (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

**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:**

**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 No.: (see below) UN 1993 class 3 III, class 8 III, **Excepted Quantities** ( $\leq 30 \text{ mL} / \Sigma \leq 1 \text{ L}$ ) = ADR/ IATA E1

or

**14.1 UN number: 1993 14.2 UN proper shipping name: Flammable liquid, n.o.s. (ethanol mixture)**

**14.3 Class: 3 14.4 Packing group: III**

*Road transport*

Classification code: F1 Tunnel restriction code: E

Limited Quantity: 5 L Special instructions: 640E

Excepted Quantity: E 1

*Air transport*

PAX: 355 max. weight PAX: 60 L

CAO: 366 max. weight CAO: 220 L

*Maritime transport*

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

**14.1 UN number: 3264**

**14.2 UN proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (sulfuric acid, sodium disulfite, hydrochloric acid, o-phosphoric acid)**

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

*Road transport*

Classification code: C1 Tunnel restriction code: E

Limited Quantity: 5 L

Excepted Quantity: E 1

*Air transport*

PAX: 852 max. weight PAX: 5 L

CAO: 856 max. weight CAO: 60 L

*Maritime transport*

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

**14.1 UN number: 3266**

**14.2 UN proper shipping name: Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide solution, ammonia solution)**

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

*Road transport*

Classification code: C5 Tunnel restriction code: E

Limited Quantity: 5 L

Excepted Quantity: E 1

*Air transport*

PAX: 852 max. weight PAX: 5 L

CAO: 856 max. weight CAO: 60 L

*Maritime transport*

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

# Safety Data Sheet

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

REF: 934127

Photometer PF-3 Fish, case

Page: 45/46

Printing date: 01.10.2019

Date of issue: 20.05.2019

## 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](http://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

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH031	Contact with acids liberates toxic gas.

#### 16.1.2 List of relevant P phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P260D	Do not breathe vapours.
P260sh	Do not breathe dust/vapours.
P261sh	Avoid breathing dust/vapours.
P264W	Wash with water thoroughly after handling.
P273	Avoid release to the environment.
P280sh	Wear protective gloves/eye protection.
P301+312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P303+361+353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P330	Rinse mouth.
P342+311	If experiencing respiratory symptoms: 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

# Safety Data Sheet

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

REF: 934127	Photometer PF-3 Fish, case	Page: 46/46
Printing date: 01.10.2019	Date of issue: 20.05.2019	

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

**16.5 Sources of key data**

Regulation 790/2009/EU adaptation of CLP regulation 1272/2008/EU to technical and scientific progress  
 Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS  
 Regulation 487/2013/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
 Regulation 669/2018/EU, 4<sup>th</sup> 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  
 TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011  
 KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

**Revisions/Updates**

*Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU  
 2017-08 Adaption of new ethanol denaturation 2016/1867/EU*

