

Safety Data Sheet

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

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Printing date: 01.10.2019	Date of issue: 21.06.2018	

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

1.1 Product identifier

REF 934111
 Product name Photometer PF-3 Pool

REACH Registration number(s): see SECTION 3.1/3.2 or
 A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

1 x Calibration tube (5 mL)
 3 x Alkaline Manganese Batteries Type AA
 1 x Button cell CR2032, built-in
 1 x 20 mL Cl₂ -2
 1 x 28 g Cl₂ -1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses
 Product for analytical use.
 Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0
 The exposure scenario is integrated into sections 1-16.

Uses advised against
 not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:
 MACHEREY-NAGEL GmbH & Co. KG
 Neumann-Neander-Str. 6-8, 52355 Dueren, GERMANY
 Tel.: +49 2421 969 0

E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency telephone number

Information not necessary.

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

SECTION 2: Hazard identification

2.0 Classification of the complete product

-

2.1 Classification of the substance or mixture

Calibration tube (5 mL)

Signal word Do not need labelling as hazardous
 -

No hazard class

Alkaline Manganese Batteries Type AA

Signal word Do not need labelling as hazardous
 -

No hazard class

Button cell CR2032, built-in

Do not need labelling as hazardous

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Signal word	-
No hazard class	
20 mL Cl₂ -2	
Signal word	Do not need labelling as hazardous
No hazard class	-
28 g Cl₂ -1	
Signal word	Do not need labelling as hazardous
No hazard class	-

2.2 Label elements

Calibration tube (5 mL)

Do not need labelling as hazardous
Signal word: -

Alkaline Manganese Batteries Type AA

Do not need labelling as hazardous
Signal word: -

Button cell CR2032, built-in

Do not need labelling as hazardous
Signal word: -

20 mL Cl₂ -2

Do not need labelling as hazardous
Signal word: -

28 g Cl₂ -1

Do not need labelling as hazardous
Signal word: -

2.3 Other hazards

Possible hazards from physicochemical properties

According to our current status of knowledge and experience we state, that this product does not contain any substances, which - in accordance with EC regulations 1272/2008/EC, 1907/2006/EC and German Regulations for Hazardous goods - have to be declared as dangerous goods, either because of their applied concentration or because of their total amount in anyone kit. An individual package has considerably less hazardous potential. ---

Information pertaining to particular risks to human and possible symptoms

Information pertaining to particular risks to the environment

Other hazards

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

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SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

Calibration tube (5 mL)

Chemical:	<i>water</i>	CAS No.:	7732-18-5
Classification:	No criteria for classification or naming of chemical not required.		
Formula:	H ₂ O		
TSCA Inventory:	listed		
REACH Reg. No.:	exempt, Annex IV		
EC No.:	231-791-2		
RTECS:	ZC0110000		
KE No.:	KE-35400		
Concentration:	90 - <100 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

Alkaline Manganese Batteries Type AA

Chemical:	<i>alkaline manganese battery</i>	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:	<i>Button cell on circuit board (lithium metal battery)</i>	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.		

20 mL Cl₂ -2

Chemical:	<i>potassium iodide</i>	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.		

28 g Cl₂ -1

Chemical:	<i>boric acid</i>	CAS No.:	10043-35-3
Classification:	H360FD, Repr. 1B		
Formula:	H ₃ BO ₃		
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.		

Chemical:	<i>tri-sodium citrate</i>	CAS No.:	6132-04-3
Classification:	No criteria for classification or naming of chemical not required.		
Formula:	C ₆ H ₅ Na ₃ O ₇ •2H ₂ O		
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.		

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Chemical:	<i>N,N-Diethyl-1,4-phenylene diammonium sulfate</i>	CAS No.:	6283-63-2
Classification:	H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm.		
Formula:	C ₁₀ H ₁₆ N ₂ •H ₂ O		
Pseudonym:	N,N-diethylbenzene-1,4-diammonium sulfate		
TSCA Inventory:	listed (CAS 6065-27-6)		
EC No.:	228-500-6	Indice No.:	612-080-00-X
RTECS:	SS9625000	MFCD:	00012993
Concentration:	1 - <5 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

Chemical:	<i>potassium dihydrogen phosphate</i>	CAS No.:	7778-77-0
Classification:	No criteria for classification or naming of chemical not required.		
Formula:	KH ₂ PO ₄		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119490224-41-XXXX		
EC No.:	231-913-4		
RTECS:	TC6615500	MFCD:	00011401
KE No.:	KE-28622		
Concentration:	5 - <25 %		
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%.

SECTION 4: First aid measures

4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately.

4.1.1 After SKIN Contact
Not necessary.

4.1.2 After EYE Contact
Not necessary.

4.1.3 After INHALATION of vapours
Not necessary. ---

4.1.4 After ORAL Intake
Not necessary. ---

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

No additionally recommendations. ---

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

None.

5.3 Advice for firefighters

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

5.4 Additional information

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Not necessary.

6.2 Environmental precautions

not necessary

6.3 Methods and material for containment and cleaning up

Clean working area with water. Flush used water into drains.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for safe storage, including any incompatibilities

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

Storage class (VCI): 6.1D

Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Calibration tube (5 mL)

Chemical: *water*

CAS No.: 7732-18-5

Alkaline Manganese Batteries Type AA

Chemical: *alkaline manganese battery*

CAS No.: -

Button cell CR2032, built-in

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

CAS No.: -

20 mL Cl₂ -2

Chemical: *potassium iodide*

CAS No.: 7681-11-0

28 g Cl₂ -1

Chemical: *boric acid*

CAS No.: 10043-35-3

DNEL: [derm] 392 mg/kg bw/day; [inh] 8.3 mg/m³
DNEL = Derived No-Effect Level (for workers)

PNEC_(fresh water): 2.9 mg/L
PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 0.5 E mg/m³
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/m³

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

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Chemical: *potassium dihydrogen phosphate*

CAS No.: 7778-77-0

8.2 Exposure controls

Not necessary.

8.2.1 Respiratory protection

Not necessary.

8.2.2 Hand protection

Not necessary.

8.2.3 Eye protection

Not necessary.

8.2.4 Skin protection

Not necessary.

8.2.5 Personal hygiene

Information not necessary.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Calibration tube (5 mL)

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

6-8

Specific gravity:

1,00 g/cm³

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

20 mL Cl₂ -2

Appearance: liquid

Colour: colourless

Odor: alcoholic

pH:

9

Flash point:

24 °C

Specific gravity:

0,93 g/cm³

Solubility in water:

0-100 %

28 g Cl₂ -1

Appearance: powder (solid)

Colour: colourless

Odor: odorless

pH:

6

Solubility in water:

0-100 %

9.2 Other information

Relevant Properties of Substance Group

SECTION 10: Stability and reactivity

10.1 Reactivity

None

10.2 Chemical stability

No known instability.

10.3 Possibility of hazardous reactions

None.

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10.4 Conditions to avoid

Not known. ---

10.5 Incompatible materials

Not known.

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.

Calibration tube (5 mL)

Chemical: *water* CAS No.: 7732-18-5
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-35400

Alkaline Manganese Batteries Type AA

Chemical: *alkaline manganese battery* CAS No.: -

Button cell CR2032, built-in

Chemical: *Button cell on circuit board (lithium metal battery)* CAS No.: -

20 mL Cl₂ -2

Chemical: *potassium iodide* CAS No.: 7681-11-0
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: not listed
 LD50_{orl rat}: 2779 mg/kg

28 g Cl₂ -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_{orl rat}: >3765 mg/kg
 LC50_{ihl rat}: > 2 mg/m³
 LD50_{drm rat}: >2000 mg/kg
 EU carcinogen: R_D 1B, R_F 1B
 TRGS 905 (DE): R_E 2, R_F 2

Chemical: *tri-sodium citrate* CAS No.: 6132-04-3
 TSCA Inventory: listed (CAS 68-04-2)
 Korea Exist.Chem.Inventory: KE-20843
 LD50_{orl rat}: >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_{orl rat}: 497 mg/kg

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Chemical: *potassium dihydrogen phosphate*
 TSCA Inventory: listed
 Korea Exist.Chem.Inventory: KE-28622
 LD50_{orl rat}: 4640 mg/kg
 LD50_{drm rbt}: >4640 mg/kg

CAS No.: 7778-77-0

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

Calibration tube (5 mL)

Chemical: *water*

CAS No.: 7732-18-5

Alkaline Manganese Batteries Type AA

Chemical: *alkaline manganese battery*

CAS No.: -

Button cell CR2032, built-in

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

CAS No.: -

20 mL Cl₂ -2

Chemical: *potassium iodide*
 LC50_{fish/96h}: 2190 mg/L
 Water hazard class (DE): 1
 Dispersion coefficient_(octanol-water): 0.04
 Storage class (VCI): 12-13

CAS No.: 7681-11-0

28 g Cl₂ -1

Chemical: *boric acid*
 PNEC_(fresh water): 2.9 mg/L
 PNEC = Predicted No Effect Concentration
 LC50_{fish/96h}: [4d] 79.7 mg/L
 EC50_{daphnia/48h}: 91-165 mg/L
 IC50_{scenedesmus quadricauda/72h}: [72h] 52.4 mg/L
 EC10_{pseudomonas putita/16h}: [EC10] 10 mg/L
 Water hazard class (DE): 1 WGK No.: 0315
 Dispersion coefficient_(octanol-water): -1.09
 Storage class (VCI): 6.1 D

CAS No.: 10043-35-3

Chemical: *tri-sodium citrate*

CAS No.: 6132-04-3

LC50_{fish/96h}: 18-32 g/L
 EC50_{daphnia/48h}: 5.6-10 g/L
 EC50_{chlorella vulgaris/5d}: >18-32 g/L
 EC10_{pseudomonas putita/16h}: EC50_{ps. fluorescens/8h}: >1.8-3.2 g/L
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

Chemical: *N,N-Diethyl-1,4-phenylene diammonium sulfate*

CAS No.: 6283-63-2

Water hazard class (DE): 3
 Storage class (VCI): 12-13

Chemical: *potassium dihydrogen phosphate*

CAS No.: 7778-77-0

LC50_{leuciscus idus/96h}: 900_{48h} mg/L
 Water hazard class (DE): 1
 Storage class (VCI): 12-13

12.2 Persistence and degradability

not necessary

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- 12.3 Bioaccumulative potential**
not necessary
- 12.4 Mobility in soil**
not necessary
- 12.5 Results of PBT and vPvB assessment**
no data available
- 12.6 Other adverse effects**
no additional data available

SECTION 13: Disposal considerations

Batteries must be collected separately and disposed acc. law regulations (electronic waste, WEEE). Further:
Not necessary.

- 13.1 Waste treatment methods**
GENERAL: Empty solids into municipal waste, empty liquids diluted into drains. Normally it is possible to empty small amounts (diluted!) into drains.

SECTION 14: Transport information

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

- 14.5 Environmental hazards**
none
- 14.6 Special precautions for user**
not necessary
- 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code**
not applicable

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013
German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung - GefStoffV), revised on November 2010, according to Directive 98/24/EC
MN Leaflet/User manual, also see www.mn-net.com
Look for your country-specific regulations.
- 15.2 Chemical safety assessment**

SECTION 16: Other information

- 16.1 List of H and P phrases**
- 16.1.1 List of relevant H phrases**
- 16.1.2 List of relevant P phrases**
- 16.2 Training advice**
Regular safety training.
- 16.3 Recommended restriction on use**
None
- 16.4 Further information**
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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, 4th adaptation of CLP regulation to technical and scientific progress
Regulation 669/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
TRGS 900, German engineering rules governing limits in air at work, updated 03/2018
SUVA .CH, Limits in air at work 2009, revised on 01.2009
KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU