

Safety Data Sheet

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

REF: 985017

NANOCOLOR Chlorine/Ozone 2

Page: 1/8

Printing date: 01.10.2019

Date of issue: 15.10.2018

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

1.1 Product identifier

REF 985017
Product name NANOCOLOR Chlorine/Ozone 2

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 5 mL Chlorine/Ozone 2 R2
20 x 95 mg Chlorine/Ozone 2, lyophilized (R0)

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

5 mL Chlorine/Ozone 2 R2

Signal word Do not need labelling as hazardous
-

No hazard class

95 mg Chlorine/Ozone 2, lyophilized (R0)

Signal word Do not need labelling as hazardous
-

No hazard class

2.2 Label elements

5 mL Chlorine/Ozone 2 R2

Do not need labelling as hazardous
Signal word: -

Safety Data Sheet

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

REF: 985017

NANOCOLOR Chlorine/Ozone 2

Page: 2/8

Printing date: 01.10.2019

Date of issue: 15.10.2018

95 mg Chlorine/Ozone 2, lyophilized (R0)

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

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

5 mL Chlorine/Ozone 2 R2

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	MFCID:	00011405
KE No.:	not listed		
Concentration:	1 - <10 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

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.		

95 mg Chlorine/Ozone 2, lyophilized (R0)

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	MFCID:	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: 985017

NANOCOLOR Chlorine/Ozone 2

Page: 3/8

Printing date: 01.10.2019

Date of issue: 15.10.2018

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>phosphates (buffer salts)</i>	CAS No.:	-
Classification:	No criteria for classification or naming of chemical not required.		
Formula:	K/Na ₁₋₃ H ₂₋₀ PO ₄		
TSCA Inventory:	all listed		
KE No.:	listed		
Concentration:	5 - <15 %		
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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. Not necessary.

Safety Data Sheet

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

REF: 985017	NANOCOLOR Chlorine/Ozone 2	Page: 4/8
Printing date: 01.10.2019	Date of issue: 15.10.2018	

- 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. Use a safety bottle when shaking test tubes.
- 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

5 mL Chlorine/Ozone 2 R2		
Chemical:	<i>potassium iodide</i>	CAS No.: 7681-11-0
Chemical:	<i>water</i>	CAS No.: 7732-18-5
95 mg Chlorine/Ozone 2, lyophilized (R0)		
Chemical:	<i>boric acid</i>	CAS No.: 10043-35-3
DNEL:	[derm] 392 mg/kg bw/day; [inh] 8.3 mg/m ³	
	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/m ³	
	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 ³	
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:	<i>N,N-Diethyl-1,4-phenylene diammonium sulfate</i>	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:	<i>phosphates (buffer salts)</i>	CAS No.: -

8.2 Exposure controls

Not necessary. Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities.

- 8.2.1 Respiratory protection**
Not necessary.
- 8.2.2 Hand protection**
Not necessary.
- 8.2.3 Eye protection**



Safety Data Sheet

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

REF: 985017

NANOCOLOR Chlorine/Ozone 2

Page: 5/8

Printing date: 01.10.2019

Date of issue: 15.10.2018

- 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

5 mL Chlorine/Ozone 2 R2

Appearance: liquid	Colour: colourless	Odor: odorless
Flash point:	N/A	
Specific gravity:	1.0 g/cm ³	

95 mg Chlorine/Ozone 2, lyophilized (R0)

Appearance: solid	Colour: colourless	Odor: odorless
pH:	6,4	
Solubility in water:	0-100 %	

9.2 Other information

Data for the other parameters of the mixtures are not available, because no registration and no chemical safety report is required.
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.

10.4 Conditions to avoid

Not known. Observe labeled storage temperature. ---

10.5 Incompatible materials

Not known.

10.6 Hazardous decomposition products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

5 mL Chlorine/Ozone 2 R2

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

Chemical:	<i>water</i>	CAS No.: 7732-18-5
TSCA Inventory:	listed	
Korea Exist.Chem.Inventory:	KE-35400	

Safety Data Sheet

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

REF: 985017

NANOCOLOR Chlorine/Ozone 2

Page: 6/8

Printing date: 01.10.2019

Date of issue: 15.10.2018

95 mg Chlorine/Ozone 2, lyophilized (R0)

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: *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

Chemical: *phosphates (buffer salts)* CAS No.: -
 TSCA Inventory: all listed
 Korea Exist.Chem.Inventory: listed
 LD50_{orl rat}: > 2000 mg/kg

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

5 mL Chlorine/Ozone 2 R2

Chemical: *potassium iodide* CAS No.: 7681-11-0
 LC50_{fish/96h}: 2190 mg/L
 Water hazard class (DE): 1
 Dispersion coefficient_(octanol-water): 0.04
 Storage class (VCI): 12-13

Chemical: *water* CAS No.: 7732-18-5

95 mg Chlorine/Ozone 2, lyophilized (R0)

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

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: *phosphates (buffer salts)* CAS No.: -
 Water hazard class (DE): 1
 Storage class (VCI): 13

Safety Data Sheet

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

REF: 985017

NANOCOLOR Chlorine/Ozone 2

Page: 7/8

Printing date: 01.10.2019

Date of issue: 15.10.2018

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

SECTION 13: Disposal considerations

Not necessary.

- 13.1 Waste treatment methods**
GENERAL: Empty solids into municipal waste, empty liquids diluted into drains.

SECTION 14: Transport information

14.1 - 14.4 Not 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**

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.

www.mn-net.com



MACHEREY-NAGEL GmbH & Co. KG · Neumann-Neander-Str. 6-8 · 52355 Düren · Germany

DE/international:

CH:

FR:

US:

Tel.: +49 24 21 969-0

Tel.: +41 62 388 55 00

Tel.: +33 388 68 22 68

Tel.: +1 484 821 0984

Fax: +49 24 21 969-199

Fax: +41 62 388 55 05

Fax: +33 388 51 76 88

Fax: +1 484 821 1272

E-mail: info@mn-net.com

E-mail: sales-ch@mn-net.com

E-mail: sales-fr@mn-net.com

E-mail: sales-us@mn-net.com

Safety Data Sheet

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

REF: 985017

NANOCOLOR Chlorine/Ozone 2

Page: 8/8

Printing date: 01.10.2019

Date of issue: 15.10.2018

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