

Safety Data Sheet

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

REF: 985607

NANOCOLOR ortho Phosphate 1, Robot

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Printing date: 06.01.2021

Date of issue: 14.12.2020

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

1.1 Product identifier

REF 985607
Product name NANOCOLOR ortho Phosphate 1, Robot

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 ortho Phosphate (B2)
1 x 6 mL ortho-Phosphat (C)
20 x 1.3 mL ortho-Phosphate (A)
1 x 2 g ortho-Phosphate (B1)

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

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>

SECTION 2: Hazard identification

2.0 Classification of the complete product



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H315

Skin Irrit. 2

H319

Eye Irrit. 2

2.1 Classification of the substance or mixture

5 mL ortho Phosphate (B2)

Signal word

Do not need labelling as hazardous

-

No hazard class

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6 mL ortho-Phosphat (C)



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H315

Skin Irrit. 2

H319

Eye Irrit. 2

1.3 mL ortho-Phosphate (A)



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H315

Skin Irrit. 2

H319

Eye Irrit. 2

2 g ortho-Phosphate (B1)

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). Inner packages up to 10 mL need max. 2 symbols (Annex I - 1.5.2.4.1 / 2).

Harmful chemicals/mixtures with signal word: **WARNING** must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2).

5 mL ortho Phosphate (B2)

Do not need labelling as hazardous

Signal word: -

6 mL ortho-Phosphat (C)



GHS07

Signal word: WARNING

1.3 mL ortho-Phosphate (A)



GHS07

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Signal word: WARNING

2 g ortho-Phosphate (B1)

Do not need labelling as hazardous

Signal word: -

2.3 Other hazards

Possible hazards from physicochemical properties

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

Information pertaining to particular risks to human and possible symptoms

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 ortho Phosphate (B2)

Chemical: *water*

CAS No.: 7732-18-5

Classification:

No criteria for classification or naming of chemical not required.

Formula:

H₂O

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.

6 mL ortho-Phosphat (C)

Chemical: *ammonium heptamolybdate*

CAS No.: 12054-85-2

Classification:

No criteria for classification or naming of chemical not required.

Formula:

H₂₄ Mo₇ N₆ O₂₄

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 (diluted < 5 %)*

CAS No.: 7664-93-9d

Classification:

H315, Skin Irrit. 2, H319, Eye Irrit. 2

Formula:

H₂SO₄ • H₂O

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

Concentration:

5 - <15 %

acc. CLP (GHS):

H315, Skin Irrit. 2, H319, Eye Irrit. 2

1.3 mL ortho-Phosphate (A)

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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

2 g ortho-Phosphate (B1)

Chemical: *sodium L(+)-ascorbate* CAS No.: 134-03-2
 Classification: No criteria for classification or naming of chemical not required.
 Formula: $C_6H_7NaO_6$
 Pseudonym: L-ascorbic acid, sodium salt (1:1)
 TSCA Inventory: listed
 EC No.: 205-126-1
 Concentration: 90 - <100 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

3.3 Remarks

When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

List of H and P phrases: see section 16.1

SECTION 4: First aid measures

4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice.

4.1.1 After SKIN Contact

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

4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

4.1.3 After INHALATION of vapours

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

4.1.4 After ORAL Intake

After oral intake lots of water should be drunk after it has been ingested. ---

4.2 Most important symptoms and effects, both acute and delayed

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

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.

5.4 Additional information

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. Regular staff training is necessary.

6.2 Environmental precautions

not necessary

6.3 Methods and material for containment and cleaning up

Bind any escaping liquid with inert absorbent.

Collect small amounts of leaked liquid and flush with water into 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): 8B

Water hazard class (DE): 1

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

5 mL ortho Phosphate (B2)

Chemical: water

CAS No.: 7732-18-5

6 mL ortho-Phosphat (C)

Chemical: ammonium heptamolybdate

CAS No.: 12054-85-2

TRGS 900 (DE): [Mo] 5 E mg/m³

E/e respirable

SUVA(CH) MAK value: [Mo] 5 e mg/m³

Chemical: sulfuric acid

CAS No.: 7664-93-9d

DNEL: 50 µg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC(fresh water): 2.5 µg/L

PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 0.1 E mg/m³

E/e respirable

Short-term exposure factor: 1 (I)

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/m³

NIOSH: NTP Report on Carcinogens (RoC) List Yes (Known to be a human carcinogen); TWA 1 mg/m³

[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/m³

1.3 mL ortho-Phosphate (A)

Chemical: sulfuric acid

CAS No.: 7664-93-9

DNEL: [inh] 50 µg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC(fresh water): 2.5 µg/L

PNEC = Predicted No Effect Concentration

EU value: 0.1 e mg/m³

TRGS 900 (DE): 0.1 E mg/m³

E/e respirable

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

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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/m³

NIOSH: NTP Report on Carcinogens (RoC) List Yes (Known to be a human carcinogen); [TWA] 1 mg/m³
[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/m³

2 g ortho-Phosphate (B1)

Chemical: sodium L(+)-ascorbate

CAS No.: 134-03-2

8.2 Exposure controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory protection

No additional recommendations.

8.2.2 Hand protection

Yes, gloves 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.

8.2.4 Skin protection

Not necessary.

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

5 mL ortho Phosphate (B2)

Appearance: liquid

Colour: colourless

Odor: odorless

6 mL ortho-Phosphat (C)

Appearance: liquid

Colour: slightly yellow

Odor: odorless

pH:

0

Specific gravity:

1,11 g/cm³

Solubility in water:

0-100 %

1.3 mL ortho-Phosphate (A)

Appearance: -

Colour: -

Odor: -

2 g ortho-Phosphate (B1)

Appearance: powder (solid)

Colour: white

Odor: odorless

pH:

[10%] 6-7.5

Solubility in water:

0-38 %

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

no further data available.

10.2 Chemical stability

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No known instability.

10.3 Possibility of hazardous reactions

No further data available.

10.4 Conditions to avoid

Observe labeled storage temperature. ---

10.5 Incompatible materials

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. 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 ortho Phosphate (B2)

Chemical: *water*

CAS No.: 7732-18-5

TSCA Inventory: listed

Korea Exist.Chem.Inventory: KE-35400

6 mL ortho-Phosphat (C)

Chemical: *ammonium heptamolybdate*

CAS No.: 12054-85-2

TSCA Inventory: listed (CAS 11098-84-3)

Japan ISHL: listed $\geq 1,0\%/\geq 0,1\%$,

Korea Exist.Chem.Inventory: not listed

Chemical: *sulfuric acid*

CAS No.: 7664-93-9d

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

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

LD50_{orl rat}: 2140 mg/kg

LC50_{ihl rat}: [8h] 600/ [4h] 850 mg/m³

TRGS 905 (DE): R_F C

1.3 mL ortho-Phosphate (A)

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_{orl rat}: 2140 mg/kg

LC50_{ihl rat}: [8h] 600/ [4h] 850 mg/m³

TRGS 905 (DE): Kat 4

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2 g ortho-Phosphate (B1)

Chemical: *sodium L(+)-ascorbate*
TSCA Inventory: listed
LD50_{orl rat}: [acid] 11.9 g/kg

CAS No.: 134-03-2

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

5 mL ortho Phosphate (B2)

Chemical: *water*

CAS No.: 7732-18-5

6 mL ortho-Phosphat (C)

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

CAS No.: 12054-85-2

Chemical: *sulfuric acid*

CAS No.: 7664-93-9d

PNEC_(fresh water): 2.5 µg/L
PNEC = Predicted No Effect Concentration

LC50_{fish/96h}: [NOEC, 65d] 25 µg/L
EC50_{daphnia/48h}: 100 mg/L
EC10_{pseudomonas putida/16h}: [72h] 100 mg/L
Water hazard class (DE): 1 WGK No.: 0182
Storage class (VCI): 8 B

1.3 mL ortho-Phosphate (A)

Chemical: *sulfuric acid*

CAS No.: 7664-93-9

PNEC_(fresh water): 2.5 µg/L
PNEC = Predicted No Effect Concentration

LC50_{fish/96h}: [NOEC, 65d] 25 µg/L
EC50_{daphnia/48h}: 100 mg/L
EC10_{pseudomonas putida/16h}: [72h] 100 mg/L
Water hazard class (DE): 1 WGK No.: 0182
Storage class (VCI): 8 B

2 g ortho-Phosphate (B1)

Chemical: *sodium L(+)-ascorbate*

CAS No.: 134-03-2

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

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

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SECTION 14: Transport information

14.1 - 14.4: No dangerous goods according the transport regulations

14.5 Environmental hazards

none, contains only small quantities of hazardous 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
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

H315 Causes skin irritation.
H319 Causes serious eye irritation.

16.1.2 List of relevant P phrases

P280sh Wear protective gloves/eye protection.

16.2 Training advice

Regular safety training.

16.3 Recommended restriction on use

Only for professional user.
An individual package of this product or test kit has a moderate hazardous potential.

16.4 Further information

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

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
Regulation 1480/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
TRGS 900, German engineering rules governing limits in air at work, updated 03/2019
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