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

1.1 Product identifier

REF 91885
Product name NANOCOLOR Ozone

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 2 NANOFIX Ozone (R0)
2 x 100 mL Ozone R1
2 x 100 mL Ozone R2

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

2 NANOFIX Ozone (R0)

Do not need labelling as hazardous
Signal word -

No hazard class

100 mL Ozone R1

Do not need labelling as hazardous

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MACHEREY-NAGEL ISO 9001 CERTIFIED
Version: M V 4.10.1

Signal word -

No hazard class

100 mL Ozone R2

GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H315	Skin Irrit. 2
H319	Eye Irrit. 2

2.2 Label elements

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identificator(s) (EU 1272/2008 Annex I - 1.5.1.2).

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).

2 NANOFIX Ozone (R0)

Do not need labelling as hazardous
Signal word: -

100 mL Ozone R1

Do not need labelling as hazardous
Signal word: -

100 mL Ozone R2

GHS07

Signal word: WARNING

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

2 NANOFIX Ozone (R0)

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Chemical: *potassium indigotrisulfonate* CAS No.: 67627-18-3
Classification: No criteria for classification or naming of chemical not required.
Formula: $C_{16}H_{16}K_3N_2O_{11}S_3$
Pseudonym: 5,5',7-Indigotrisulfonic acid, tripotassium salt
TSCA Inventory: not listed
Concentration: 10 - <20 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

100 mL Ozone R1

Chemical: *o-phosphoric acid* CAS No.: 7664-38-2
Classification: No criteria for classification or naming of chemical not required.
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 Indice No.: 015-011-00-6
RTECS: TB6300000
KE No.: KE-27427
Concentration: < 1,00 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

100 mL Ozone R2

Chemical: *malonic acid* CAS No.: 141-82-2
Classification: H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H318, Eye Dam. 1, H335, STOT SE 3
Formula: $C_3H_4O_4$
Pseudonym: propanedioic acid
TSCA Inventory: listed (propanedioic acid)
REACH Reg. No.: as intermediate
EC No.: 205-503-0
RTECS: OO0175000 MFCD: 00002707
KE No.: KE-23182
Concentration: 10 - <20 %
acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

Chemical: *monosodium phosphate* CAS No.: 7558-80-7
Classification: No criteria for classification or naming of chemical not required.
Formula: NaH_2PO_4
TSCA Inventory: listed
REACH Reg. No.: 01-2119489796-13-XXXX
EC No.: 231-449-2
KE No.: KE-31577
Concentration: 10 - <20 %
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. ---

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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

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.

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

2 NANOFIX Ozone (R0)
Chemical: *potassium indigotrisulfonate* CAS No.: 67627-18-3

100 mL Ozone R1
Chemical: *o-phosphoric acid* CAS No.: 7664-38-2
DNEL: 2.92 mg/m³
DNEL = Derived No-Effect Level (for workers)
EU value: [TWA] 1 /[STEL] 2 mg/m³
TRGS 900 (DE): [8h] 1 / [15min] 2 mg/m³

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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/m³
NIOSH: TWA 1 / ST 3 mg/m³
NIOSH STEL: 3 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

100 mL Ozone R2
Chemical: *malonic acid* CAS No.: 141-82-2
TRGS 900 (DE): 1.5 A mg/m³
E/e respirable

Chemical: *monosodium phosphate* CAS No.: 7558-80-7
DNEL: 4.07_{inh} mg/m³
DNEL = Derived No-Effect Level (for workers)
TRGS 900 (DE): -
E/e respirable

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

2 NANOFIX Ozone (R0)
Appearance: solid (lyoph.) Colour: blue Odor: odorless
pH: 6.2-7.8

100 mL Ozone R1
Appearance: liquid Colour: colourless Odor: odorless
pH: 2
Specific gravity: 1.00 g/cm³

100 mL Ozone R2
Appearance: liquid Colour: colourless Odor: odorless
pH: 1
Specific gravity: 1.051 g/cm³

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

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SECTION 10: Stability and reactivity

10.1 Reactivity
no further data available.

10.2 Chemical stability
No known instability.

10.3 Possibility of hazardous reactions
No further data available.

10.4 Conditions to avoid
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.

2 NANOFIX Ozone (R0)

Chemical: *potassium indigotrisulfonate* CAS No.: 67627-18-3
TSCA Inventory: not listed

100 mL Ozone R1

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
$LD50_{orl\ rat}$: 1530 mg/kg
$LC50_{ihl\ rbt}$: 1.689 mg/L
$LD50_{drm\ rbt}$: 2750 mg/kg

TRGS 905 (DE): R_F C

100 mL Ozone R2

Chemical: *malonic acid* CAS No.: 141-82-2
TSCA Inventory: listed (propanedioic acid)
Korea Exist.Chem.Inventory: KE-23182
$LD50_{orl\ rat}$: 1310 mg/kg
$LC50_{ihl\ rat}$: > 8.9_{1h} mg/L

Chemical: *monosodium phosphate* CAS No.: 7558-80-7
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-31577
$LD50_{orl\ rat}$: 8290 mg/kg
$LD50_{drm\ rbt}$: >7940 mg/kg

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SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

2 NANOFIX Ozone (R0)
Chemical: *potassium indigotrisulfonate* CAS No.: 67627-18-3

100 mL Ozone R1
Chemical: *o-phosphoric acid* CAS No.: 7664-38-2
$LC50_{fish/96h}$: 3-3.5 mg/L
Water hazard class (DE): 1 WGK No.: 0392
Storage class (VCI): 8 B

100 mL Ozone R2
Chemical: *malonic acid* CAS No.: 141-82-2
Water hazard class (DE): 1
Storage class (VCI): 12

Chemical: *monosodium phosphate* CAS No.: 7558-80-7
$LC50_{leuciscus\ idus/96h}$: LC0: ~2400_{48h} mg/L
Water hazard class (DE): 1 WGK No.: 0371
Dispersion $coefficient_{(octanol-water)}$: -3.96
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

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
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

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

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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
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

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