

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 1/16

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 985683
Product name NANOCOLOR total Nitrogen 22, 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.

2 x 11 mL NO₃ /N (R2)
20 x 4 mL total Nitrogen TN_b 22 (R0)
20 x 0,18 g Decomposition tube TN_b 22 (RA)
2 x
2 x 10 mL TN_b 22 B2

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



GHS02 GHS03 GHS05 GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
EUH031	031 not defined
H226	Flam. Liq. 3
H272	Ox. Sol. 2
H290	Met. Corr. 1
H302	Acute Tox. 4 oral
H314	Skin Corr. 1B
H315	Skin Irrit. 2
H317	Skin Sens. 1
H318	Eye Dam. 1
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H336, H335	STOT SE 3

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Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 2/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

2.1 Classification of the substance or mixture

11 mL NO₃/N (R2)



GHS02

GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H226

Flam. Liq. 3

H319

Eye Irrit. 2

H336, H335

STOT SE 3

4 mL total Nitrogen TN_b 22 (R0)



GHS05

GHS07

Signal word

DANGER

Hazard identification

Hazard classes/categories

H290

Met. Corr. 1

H302

Acute Tox. 4 oral

H314

Skin Corr. 1B

0,18 g Decomposition tube TN_b 22 (RA)



GHS03

GHS07

GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H272

Ox. Sol. 2

H302

Acute Tox. 4 oral

H315

Skin Irrit. 2

H317

Skin Sens. 1

H319

Eye Irrit. 2

H334

Resp. Sens. 1

H335

STOT SE 3



GHS05

GHS07

Signal word

DANGER

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 3/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

Hazard identification	Hazard classes/categories
EUH031	031 not defined
H290	Met. Corr. 1
H302	Acute Tox. 4 oral
H314	Skin Corr. 1A
H318	Eye Dam. 1

10 mL TN_b 22 B2

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** 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.

Oxidizing mixtures with signal word: **DANGER** and **H272** must not be labelled with H and P phrases **until 125 mL**.

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).

11 mL NO₃ /N (R2)



GHS02



GHS07

Signal word: WARNING

4 mL total Nitrogen TN_b 22 (R0)



GHS05



GHS07

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.

0,18 g Decomposition tube TN_b 22 (RA)



GHS03



GHS07



GHS08

Signal word: DANGER

H317, H334

May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P261sh, P280sh, P342+311

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 4/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

Avoid breathing dust/vapours. Wear protective gloves/eye protection. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.



GHS05 GHS07

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.

10 mL TN_b 22 B2

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. ---

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, inhalation of vapours/dust, 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. ---

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

11 mL NO₃/N (R2)

Chemical: 2,6-dimethylphenol

CAS No.: 576-26-1

Classification: H301, Acute Tox. 3 oral, H311, Acute Tox. 3 derm., H314, Skin Corr. 1B, H411, Aquatic Chronic 2

Formula: C₈H₁₀O; (CH₃)₂-C₆H₃-OH

Pseudonym: 2,6-xyleneol

TSCA Inventory: listed

REACH Reg. No.: 01-2119552794-29-xxxx

EC No.: 209-400-1

Indice No.: 604-006-00-X

RTECS: ZE6125000

MFCD: 00002240

KE No.: KE-35435, >5% Toxic 97-1-274

Concentration: 0.1 - <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: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 5/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

Chemical: *2-propanol* CAS No.: 67-63-0
Classification: H225, Flam. Liq. 2, H319, Eye Irrit. 2, H336, STOT SE 3
Formula: C_3H_8O
Pseudonym: isopropanol, IPA, propan-2-ol
TSCA Inventory: listed
REACH Reg. No.: 01-2119457558-25-XXXX
EC No.: 200-661-7
RTECS: NT8050000
KE No.: KE-29363
Concentration: 35 - <50 %
acc. CLP (GHS): H226, Flam. Liq. 3, H319, Eye Irrit. 2, H336, STOT SE 3

Indice No.: 603-117-00-0
MFCD: 00011674

4 mL total Nitrogen TN_b 22 (R0)

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
RTECS: TB6300000
KE No.: KE-27427
Concentration: 25 - <40 %
acc. CLP (GHS): H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H314, Skin Corr. 1B

Indice No.: 015-011-00-6

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
RTECS: WS5600000
KE No.: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.
Concentration: 51 - <65 %
acc. CLP (GHS): H314, Skin Corr. 1B

Indice No.: 016-020-00-8

0,18 g Decomposition tube TN_b 22 (RA)

Chemical: *sodium carbonate* CAS No.: 497-19-8
Classification: H319, Eye Irrit. 2
Formula: Na_2CO_3
TSCA Inventory: listed
REACH Reg. No.: 01-2119485498-19-xxxx
EC No.: 207-838-8
RTECS: VZ4050000
KE No.: KE-31380
Concentration: 20 - <50 %
acc. CLP (GHS): H319, Eye Irrit. 2

Indice No.: 011-005-00-2

Chemical: *potassium peroxydisulfate* CAS No.: 7727-21-1
Classification: H272, Ox. Liq. 2, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H334, Resp. Sens. 1, H335, STOT SE 3
Formula: $K_2O_8S_2$
Pseudonym: potassium persulfate
TSCA Inventory: listed
REACH Reg. No.: 01-2119495676-19-xxxx
EC No.: 231-781-8
RTECS: SE0400000
KE No.: KE-12177
Concentration: 60 - <80 %
acc. CLP (GHS): H272, Ox. Liq. 2, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H334, Resp. Sens. 1, H335, STOT SE 3

Indice No.: 016-061-00-1
MFCD: 00011386

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 6/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

Chemical: *potassium hydroxide* CAS No.: 1310-58-3s
Classification: H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H314, Skin Corr. 1B
TSCA Inventory: listed
REACH Reg. No.: 01-2119487136-33-xxxx
EC No.: 215-181-3
RTECS: TT2100000 MFCD: 00003553
KE No.: KE-29139, Toxic 97-1-137
Concentration: 5 - <14 %
acc. CLP (GHS): H290, Met. Corr. 1, H314, Skin Corr. 1B

Chemical: *sodium hydroxide* CAS No.: 1310-73-2s
Classification: H290, Met. Corr. 1, H314, Skin Corr. 1B
Formula: NaOH
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, >5% Toxic 97-1-136
Concentration: 5 - <10 %
acc. CLP (GHS): H290, Met. Corr. 1, H314, Skin Corr. 1B

Chemical: *sodium disulfite* CAS No.: 7681-57-4
Classification: H302, Acute Tox. 4 oral, H318, Eye Dam. 1, EUH031, 031 not defined
Formula: Na₂O₅S₂
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: 80 - <100 %
acc. CLP (GHS): H302, Acute Tox. 4 oral, H318, Eye Dam. 1, EUH031, 031 not defined

10 mL TN_b 22 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.

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.

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.

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 7/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

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 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 DISTRESS 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. 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

Do not breathe vapours. 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

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 ---

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. Use a safety bottle when shaking test tubes.

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 8/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

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): 2

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

11 mL NO₃/N (R2)

Chemical: 2,6-dimethylphenol

CAS No.: 576-26-1

NIOSH: not listed ppm

[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 ppm

Chemical: 2-propanol

CAS No.: 67-63-0

DNEL: [inh] 500 mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC(fresh water): 140.9 mg/L

PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 200 ppm / 500 mg/m³

E/e respirable

Short-term exposure factor: 2 (II), Y

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

SUVA(CH) MAK value: 200 ppm / 500 mg/m³

TRGS 903 (DE): [Aceton B/b, U/b] 25 mg/L

B blood, U urine, a no limitation, b end of exposition or shift

NIOSH: [TWA] 400 ppm / 980 mg/m³

NIOSH STEL: 500 ppm / 1225 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] 400 ppm / 980 mg/m³

4 mL total Nitrogen TN_b 22 (R0)

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

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

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

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

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 9/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

0,18 g Decomposition tube TN_b 22 (RA)

Chemical: *sodium carbonate*

CAS No.: 497-19-8

DNEL: 10_{inh} mg/m³
DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): -
E/e respirable

Chemical: *potassium peroxydisulfate*

CAS No.: 7727-21-1

DNEL: [derm] 18,2 mg/kg bw/day; [inh] 2.06 mg/m³
DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): -
E/e respirable

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 hydroxide*

CAS No.: 1310-58-3s

DNEL: 1_{inh} mg/m³
DNEL = Derived No-Effect Level (for workers)

SUVA(CH) MAK value: 2 e mg/m³
NIOSH: C 2 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: none

Chemical: *sodium hydroxide*

CAS No.: 1310-73-2s

DNEL: 1_{inh} mg/m³
DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): (2 E) mg/m³
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/m³
NIOSH: 2 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 2 mg/m³

Chemical: *sodium disulfite*

CAS No.: 7681-57-4

DNEL: [inh] 225 mg/m³
DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): -
E/e respirable

SUVA(CH) MAK value: 5 e mg/m³
NIOSH: [TWA] 5 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: none

10 mL TN_b 22 B2

Chemical: *water*

CAS No.: 7732-18-5

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

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: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 10/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

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

11 mL NO₃/N (R2)

Appearance: liquid

Colour: rose

Odor: alcoholic

pH:

6-8

Flash point:

18,5 °C

Specific gravity:

0,9 g/cm³

Solubility in water:

0-100 %

4 mL total Nitrogen TN_b 22 (R0)

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

0-1

Specific gravity:

1,79 g/cm³

Solubility in water:

0-100 %

0,18 g Decomposition tube TN_b 22 (RA)

Appearance: solid

Colour: colourless

Odor: odorless

pH:

5-7

Solubility in water:

0-30 %

Appearance: powder (solid)

Colour: colourless

Odor: odorless

pH:

13-14

Solubility in water:

0-40 %

10 mL TN_b 22 B2

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

6-8

Specific gravity:

1,00 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

SECTION 10: Stability and reactivity

10.1 Reactivity

Strong CORROSIVE, 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. 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.

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 11/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

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.

11 mL NO₃ /N (R2)

Chemical: 2,6-dimethylphenol CAS No.: 576-26-1
TSCA Inventory: listed California Proposition 65 List: not listed
Target Organs: Leber, Niere
Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: PRTR - Class I Designated Chemical Substance Yes, Japan PDSCL: not listed
Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-35435, >5% Toxic 97-1-274
LD50_{orl rat}: 296 mg/kg
LC_{50_{ihl} rbt}: 500 mg/m³
LD50_{drm rat}: 2325 mg/kg
LD50_{drm rbt}: 1000 mg/kg
LD50_{orl mus}: 450 mg/kg

Chemical: 2-propanol CAS No.: 67-63-0
TSCA Inventory: listed California Proposition 65 List: not listed
ACGIH: 1230 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system
Symptoms: irritation eyes, nose, throat; drowsiness, dizziness, headache; dry cracking skin; in animals: narcosis
Australia NICNAS: Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: PAC yes, Japan PDSCL: -
Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: KE-29363
Korea Exist.Chem.Inventory: KE-29363
LD50_{orl rat}: 5045 mg/kg
LC_{50_{ihl} rat}: 3570 mg/kg
LC50_{ihl rat}: 164h g/m³
LD50_{drm rbt}: 12.8 g/kg
TRGS 905 (DE): R_F C

4 mL total Nitrogen TN_b 22 (R0)

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: 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
Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.
TRGS 905 (DE): R_F C

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; stomatitis;
dental erosion; eye, skin burns; dermatitis
Australia NICNAS: 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

www.mn-net.com

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 12/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

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

0,18 g Decomposition tube TN_b 22 (RA)

Chemical: *sodium carbonate*

CAS No.: 497-19-8

TSCA Inventory: listed

Korea Exist.Chem.Inventory: KE-31380

LD50_{orl rat}: 4090 mg/kg

LC_{LoWorl rat}: 4000 mg/kg

LC50_{ihl rat}: 2300_{2h} mg/m³

Chemical: *potassium peroxydisulfate*

CAS No.: 7727-21-1

TSCA Inventory: listed

California Proposition 65 List: not listed

Australia NICNAS: Yes (PEC/18)

Canada CEPA 1999: DSI Yes

Japan CSCL/PRTR: not listed, Japan PDSCL: not listed

Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-2 (SDS required)

South Korea TCCA: not listed

Korea Exist.Chem.Inventory: KE-12177

LD50_{orl rat}: 802 mg/kg

Acute Effects: Cause after oral intake, inhalation of vapours/dust, 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.

TRGS 907 (DE): Sah

Chemical: *potassium hydroxide*

CAS No.: 1310-58-3s

TSCA Inventory: listed

Exposure Routes: inhalation, ingestion, skin and/or eye contact

Target Organs: Eyes, skin, respiratory system

Symptoms: irritation eyes, skin, respiratory system; cough, sneezing; eye, skin burns; vomiting, diarrhea

Japan ISHL: listed ≥1,0%/≥1,0%

Korea Exist.Chem.Inventory: KE-29139, Toxic 97-1-137

LD50_{orl rat}: 273 mg/kg

Chemical: *sodium hydroxide*

CAS No.: 1310-73-2s

TSCA Inventory: 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

Japan CSCL/PRTR: not listed, Japan PDSCL: not listed

Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)

Korea Exist.Chem.Inventory: KE-31487, >5% Toxic 97-1-136

LD50_{orl rat}: 500 mg/kg

LD50_{drm rbt}: not applicable

LD50_{orl mus}: 40 mg/kg

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_{orl rat}: 1540 mg/kg

LD50_{drm rat}: 2000 mg/kg

Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

www.mn-net.com

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 13/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

10 mL TN_b 22 B2

Chemical: water
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-35400

CAS No.: 7732-18-5

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

11 mL NO₃/N (R2)

Chemical: 2,6-dimethylphenol
LC50_{pimephales promelas/96h}: 22-27 mg/L
EC50_{daphnia/48h}: 11.2 mg/L
Water hazard class (DE): 2 WGK No.: 1689
Dispersion coefficient_(octanol-water): 2.36
Storage class (VCI): 6.1 C

CAS No.: 576-26-1

Chemical: 2-propanol
PNEC_(fresh water): 140.9 mg/L
PNEC = Predicted No Effect Concentration
LC50_{fish/96h}: 1400 mg/L
EC50_{daphnia/48h}: 13.3 g/L
LC50_{scenedesmus quadricauda/72h}: >1000 mg/L
EC10_{pseudomonas putida/16h}: EC5: 1050 mg/L
Water hazard class (DE): 1 WGK No.: 0135
Dispersion coefficient_(octanol-water): 0.05
Storage class (VCI): 3

CAS No.: 67-63-0

4 mL total Nitrogen TN_b 22 (R0)

Chemical: o-phosphoric acid
Avoid contact of substance/mixture to environment.
LC50_{fish/96h}: 3-3.5 mg/L
Water hazard class (DE): 1 WGK No.: 0392
Storage class (VCI): 8 B

CAS No.: 7664-38-2

Chemical: sulfuric acid
Avoid contact of substance/mixture to environment.
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

CAS No.: 7664-93-9

0,18 g Decomposition tube TN_b 22 (RA)

Chemical: sodium carbonate
LC50_{fish/96h}: 300 mg/L
EC50_{daphnia/48h}: 265 mg/L
Water hazard class (DE): 1 WGK No.: 0222
Storage class (VCI): 12-13

CAS No.: 497-19-8

Chemical: potassium peroxydisulfate
Water hazard class (DE): 1 WGK No.: 1350
Storage class (VCI): 5.1 B

CAS No.: 7727-21-1

Chemical: potassium hydroxide
Avoid contact of substance/mixture to environment.
LC50_{pimephales promelas/96h}: 880 mg/L
EC50_{daphnia/48h}: 660 mg/L
Water hazard class (DE): 1 WGK No.: 345
Storage class (VCI): 8 B

CAS No.: 1310-58-3s

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 14/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

Chemical: *sodium hydroxide*
 Avoid contact of substance/mixture to environment.
 LC50_{leuciscus idus/96h}: 35-189 mg/L
 LC50_{fish/96h}: 45.4 mg/L
 EC50_{daphnia/48h}: >100 mg/L
 Water hazard class (DE): 1 WGK No.: 142
 Storage class (VCI): 8 B

CAS No.: 1310-73-2s

Chemical: *sodium disulfite*
 LC50_{fish/96h}: 150-220 mg/L
 EC50_{daphnia/48h}: 89 mg/L
 IC50_{scenedesmus quadricauda/72h}: 48 mg/L
 Water hazard class (DE): 1 WGK No.: 1169
 Storage class (VCI): 8 B

CAS No.: 7681-57-4

10 mL TN_b 22 B2

Chemical: *water*

CAS No.: 7732-18-5

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

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:**

UN No.: (see below) class 5.1 III, **Excepted Quantities** ($\leq 30 \text{ mL}/\Sigma \leq 1 \text{ L}$) = ADR/ IATA E1

UN 1993 class 3 II, class 8 II, **Excepted Quantities** ($\leq 30 \text{ mL}/\Sigma \leq 500 \text{ mL}$) = ADR/ IATA E2

or

14.1 UN number: 1993 14.2 UN proper shipping name: Flammable liquid, n.o.s. (2-propanol mixture)

14.3 Class: 3 14.4 Packing group: II

Road transport

Classification code: F1 Tunnel restriction code: E

Limited Quantity: 1 L Special instructions: 640C

Excepted Quantity: E 2

Air transport

PAX: 353 max. weight PAX: 5 L

CAO: 364 max. weight CAO: 60 L

Maritime transport

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

www.mn-net.com

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 15/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

14.1 UN number: 3215 **14.2 UN proper shipping name:** Persulphates, inorganic, n.o.s.

14.3 Class: 5.1 **14.4 Packing group:** III

Road transport

Classification code: O2

Limited Quantity: 5 Kg

Excepted Quantity: E 1

Air transport

PAX: 559

CAO: 563

Maritime transport

EmS: F-A, S-Q

Maritime pollutant (5.2.1.6):

Tunnel restriction code: E

max. weight PAX: 25 Kg

max. weight CAO: 100 Kg

Storage category: B

P* (Limited Quantity (LQ) until 5 L/kg per inner package)

14.1 UN number: 3264

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

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

Road transport

Classification code: C1

Limited Quantity: 1 L

Excepted Quantity: E 2

Air transport

PAX: 851

CAO: 855

Maritime transport

EmS: F-A, S-B

Tunnel restriction code: E

max. weight PAX: 1 L

max. weight CAO: 30 L

Storage category: B

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

H226	Flammable liquid and vapour.
H272	May intensify fire; oxidizer.
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.

Safety Data Sheet

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

REF: 985683

NANOCOLOR total Nitrogen 22, robot

Page: 16/16

Printing date: 06.01.2021

Date of issue: 14.12.2020

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
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.
P260D Do not breathe vapours.
P260sh Do not breathe dust/vapours.
P261sh Avoid breathing dust/vapours.
P264W Wash with water thoroughly after handling.
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.
P403+233 Store in a well-ventilated place. Keep container tightly closed.

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

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.
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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
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