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

1.1 Product identifier

REF 985049
Product name NANOCOLOR Silver 3

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.

20 x 1.5 mL Silver 3 (R0)
1 x 11 mL Silver 3 (R2)
1 x 11 mL Silver 3 (R3)

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
Valencienner Str. 11, 52355 Düren, 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

GHS08

Signal word WARNING

Hazard identification	Hazard classes/categories
H373	STOT RE 2

2.1 Classification of the substance or mixture

1.5 mL Silver 3 (R0)

Do not need labelling as hazardous

Signal word -

No hazard class

11 mL Silver 3 (R2)

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GHS08

Signal word WARNING

Hazard identification	Hazard classes/categories
H373	STOT RE 2

11 mL Silver 3 (R3)

Do not need labelling as hazardous

Signal word -

No hazard class

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

1.5 mL Silver 3 (R0)

Do not need labelling as hazardous
Signal word: -

11 mL Silver 3 (R2)

GHS08

Signal word: WARNING

11 mL Silver 3 (R3)

Do not need labelling as hazardous
Signal word: -

2.3 Other hazards

Possible hazards from physicochemical properties

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

1.5 mL Silver 3 (R0)

Chemical: *citrate buffer solution* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: all listed
KE No.: listed
Concentration: 10 - <25 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

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11 mL Silver 3 (R2)

Chemical: *ethylendinitrilo tetraacetic acid, di Na-salt (EDTA-Na)* CAS No.: 6381-92-6
Classification: H332, Acute Tox. 4 inh., H373, STOT RE 2
Formula: $C_{10}H_{14}N_2Na_2O_8 \cdot 2H_2O$
TSCA Inventory: listed (CAS 139-33-3)
EC No.: 205-358-3
RTECS: AH4410000; AH4375000 MFCD: 00150037
Concentration: 5 - <10 %
acc. CLP (GHS): H373, STOT RE 2

11 mL Silver 3 (R3)

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5
Classification: No criteria for classification or naming of chemical not required.
Formula: C_2H_6OS
Pseudonym: DMSO, 1,1'-sulfinylbis-methane
TSCA Inventory: listed
REACH Reg. No.: 01-2119431362-50-xxxx
EC No.: 200-664-3
RTECS: PV6210000 MFCD: 00002089
KE No.: KE-32367
Concentration: 80 - <100 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *colour dye(s)* CAS No.: -
Classification: No criteria for classification or naming of chemical not required.
TSCA Inventory: all listed, <1%
Concentration: < 0.10 %
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.

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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. 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): 12
Water hazard class (DE): 2

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

1.5 mL Silver 3 (R0)
Chemical: *citrate buffer solution* CAS No.: -

11 mL Silver 3 (R2)
Chemical: *ethylendinitrilo tetraacetic acid, di Na-salt (EDTA-Na)* CAS No.: 6381-92-6
DNEL: [inh] 1.5 mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 2.2 mg/L
PNEC = Predicted No Effected Concentration

11 mL Silver 3 (R3)
Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5
DNEL: 394_{inh} mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 17 mg/L
PNEC = Predicted No Effected Concentration
TRGS 900 (DE): 50 ppm / 160 mg/m³
E/e respirable
Short-term exposure factor: 2 (I), H, Z
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 50 ppm / 160 mg/m³

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Chemical: *colour dye(s)* CAS No.: -

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

1.5 mL Silver 3 (R0)

Appearance: liquid	Colour: colourless	Odor: fusty, mouldy
pH:	5-6	
Solubility in water:	0-100 %	

11 mL Silver 3 (R2)

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	6-8	
Solubility in water:	0-100 %	

11 mL Silver 3 (R3)

Appearance: liquid	Colour: red	Odor: fusty, mouldy
pH:	6-8	
Flash point:	95 °C	
Specific gravity:	1,09 g/cm³	
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
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

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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.

1.5 mL Silver 3 (R0)

Chemical: *citrate buffer solution* CAS No.: -
TSCA Inventory: all listed
Korea Exist.Chem.Inventory: listed

11 mL Silver 3 (R2)

Chemical: *ethylendinitrilo tetraacetic acid, di Na-salt (EDTA-Na)* CAS No.: 6381-92-6
TSCA Inventory: listed (CAS 139-33-3)
$LD50_{orl\ rat}$: 2800 mg/kg

Chronic Effects: May cause damage to organs through prolonged or repeated exposure.

11 mL Silver 3 (R3)

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-32367
$LD50_{orl\ rat}$: 14.5 g/kg
$LD50_{drm\ rat}$: 40 g/kg

Chemical: *colour dye(s)* CAS No.: -
TSCA Inventory: all listed, <1%

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

1.5 mL Silver 3 (R0)

Chemical: *citrate buffer solution* CAS No.: -
Water hazard class (DE): 0
Storage class (VCI): 12

11 mL Silver 3 (R2)

Chemical: *ethylendinitrilo tetraacetic acid, di Na-salt (EDTA-Na)* CAS No.: 6381-92-6
$PNEC_{(fresh\ water)}$: 2.2 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{fish/96h}$: [4d] 41-1592 mg/L
$EC50_{daphnia/48h}$: 140 mg/L
$IC50_{scenedesmus\ quadricauda/72h}$: [72h] 2.77-1000 mg/L
$EC10_{pseudomonas\ putita/16h}$: [EC10, 30h] 500 mg/L
Water hazard class (DE): 2
$Dispersion\ coefficient_{(octanol-water)}$: -4.3
Storage class (VCI): 12-13

11 mL Silver 3 (R3)

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5
$PNEC_{(fresh\ water)}$: 17 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{fish/96h}$: 38.5 g/L
$EC50_{daphnia/48h}$: 24.6 g/L
$EC10_{pseudomonas\ putita/16h}$: EC/16h: 7100 mg/L
Water hazard class (DE): 1 WGK No.: 5050

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Dispersion coefficient$_{(octanol-water)}$: -1.35
Storage class (VCI): 12

Chemical: *colour dye(s)* CAS No.: -

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 - 14.4 Not necessary

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

H373	May cause damage to organs through prolonged or repeated exposure.

16.1.2 List of relevant P phrases

P260sh	Do not breathe dust/vapours.
P280sh	Wear protective gloves/eye protection.

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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
Regulation 849/2021/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

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