

# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 985605.1

NANOCOLOR Ammonium 50, Robot

Page: 1/11

Printing date: 13.10.2025

Date of issue: 01.08.2025

Version: 3.6.1.1

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

### 1.1 Product identifier

REF 985605.1  
Product name NANOCOLOR Ammonium 50, 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 20 x 175 mg Ammonium 3 Robot R2 UFI: YS2X-63JN-220E-TUNP  
20 x 8.4 mL Ammonium 50 robot reagent A

### 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  
Valenciennner Str. 11, 52355 Düren, Germany  
Phone: +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, <<https://www.ggiz-erfurt.de>>

You find our current versions of SDS in Internet:

<<http://www.mn-net.com/SDS>>

## SECTION 2: Hazard identification

### 2.0 Classification of the complete product according to Regulation (EC) 1272/2008



GHS05 GHS07 GHS08

Signal word DANGER

| Hazard identification | Hazard classes/categories |
|-----------------------|---------------------------|
| H315                  | Skin Irrit. 2             |
| H318                  | Eye Dam. 1                |
| H361d                 | Repr. 2                   |
| H373                  | STOT RE 2                 |

### 2.1 Classification of the substance or mixture according to Regulation (EC) 1272/2008

20 x 175 mg Ammonium 3 Robot R2



GHS05 GHS07 GHS08

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| Signal word           | DANGER                    |
|-----------------------|---------------------------|
| Hazard identification | Hazard classes/categories |
| H315                  | Skin Irrit. 2             |
| H318                  | Eye Dam. 1                |
| H319                  | Eye Irrit. 2              |
| H361                  | Repr. 2                   |
| H361d                 | Repr. 2                   |
| H373                  | STOT RE 2                 |

## 8.4 mL Ammonium 50 robot reagent A

|                 |                                    |
|-----------------|------------------------------------|
| Signal word     | Do not need labelling as hazardous |
| No hazard class | -                                  |

List of H phrases: see section 16.2

## 2.2 Label elements according regulation (EC) 1272/2008

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).

### 20 x 175 mg Ammonium 3 Robot R2



Signal word: DANGER

H318, H361d

Causes serious eye damage. Suspected of damaging the unborn child.

P201, P280sh, P305+351+338, P310

Obtain special instructions before use. Wear protective gloves/eye protection. 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.

### 8.4 mL Ammonium 50 robot reagent A

Do not need labelling as hazardous

Signal word: -

## Label elements of the complete product



Signal word: DANGER

H318, H361d

Causes serious eye damage. Suspected of damaging the unborn child.

P201, P280sh, P305+351+338, P310

Obtain special instructions before use. Wear protective gloves/eye protection. 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.

## 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.

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## 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.  
Suspected of damaging the unborn child.

## Information pertaining to particular risks to the environment

PBT: not applicable

vPvB: not applicable

## Possible endocrine disrupting effects

no data available

## SECTION 3: Composition / information on ingredients

### 3.1 Substances or 3.2 Mixtures

#### 20 x 175 mg Ammonium 3 Robot R2

Substance name: *lithium hydroxide*

CAS No.: 1310-65-2

Substance rating: H302, Acute Tox. 4 oral, H314, Skin Corr. 1 B, H318, Eye Dam. 1

Formula: LiOH

Pseudonym (de): Lithiumhydrat

REACH Reg. No.: 01-2119560576-31-xxxx

EC No.: 215-183-4

Concentration: 3 - <5 %

acc. CLP (GHS): H315, Skin Irrit. 2, H318, Eye Dam. 1

Substance name: *sodium salicylate*

CAS No.: 54-21-7

Substance rating: H302, Acute Tox. 4 oral, H319, Eye Irrit. 2, H361, Repr. 2, H361d, Repr. 2

Formula: C<sub>7</sub>H<sub>5</sub>NaO<sub>3</sub>

REACH Reg. No.: 01-2119918289-28-xxxx

EC No.: 200-198-0

Concentration: 10 - <35 %

acc. CLP (GHS): H319, Eye Irrit. 2, H361, Repr. 2, H361d, Repr. 2

Substance name: *ethylenedinitrilo tetraacetic acid, di Na-salt (EDTA-Na)*

CAS No.: 6381-92-6

Substance rating: H332, Acute Tox. 4 inh., H373, resp. irrit. STOT SE 3

Formula: C<sub>10</sub>H<sub>14</sub>N<sub>2</sub>Na<sub>2</sub>O<sub>8</sub>•2H<sub>2</sub>O

Pseudonym (de): Titriplex® III

EC No.: 205-358-3

Concentration: 5 - <10 %

acc. CLP (GHS): H373, STOT RE 2

#### 8.4 mL Ammonium 50 robot reagent A

Substance name: *water*

CAS No.: 7732-18-5

Substance rating: No criteria for classification or naming of chemical not required.

Formula: H<sub>2</sub>O

REACH Reg. No.: exempt, Annex IV

EC No.: 231-791-2

Concentration: 90 - <100 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

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## 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 16.2.

## 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.

#### 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 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.

#### 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

Causes serious eye damage.

CMR Effekte: Suspected of damaging the unborn child.

### 4.3 Indication of any immediate medical attention and special treatment needed

After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must to be carried out by an eye specialist. ---

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### 5.1.1 Suitable 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.

#### 5.1.2 Unsuitable extinguishing media

no data available

### 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

no data available

## 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

PBT: not applicable

vPvB: not applicable

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## 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

no data available

## 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

Safe storage is guaranteed in the original packaging from MACHEREY-NAGEL. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 8B

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

#### 20 x 175 mg Ammonium 3 Robot R2

Chemical: *lithium hydroxide*

CAS No.: 1310-65-2

DNEL: 41.3 derm mg/kg bw/d; 10 inh mg/m³  
DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 1.21 mg/L  
PNEC = Predicted No Effect Concentration

TRGS 900 (DE): -  
E/e respirable

SUVA(CH) MAK value: [als LI][MAK] 0,2 e/[STEL] 0,2 e mg/m³

Chemical: *sodium salicylate*

CAS No.: 54-21-7

DNEL: 1,32 mg/m³  
DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 0,0413 mg/L  
PNEC = Predicted No Effect Concentration

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 Effect Concentration

#### 8.4 mL Ammonium 50 robot reagent A

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

No additional recommendations.

#### 8.2.2 Skin protection / 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 / Face Protection

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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 contamination with these hazards.

## 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.

## 8.2.6 Thermal hazards

no data available

## 8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.

# SECTION 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

### 20 x 175 mg Ammonium 3 Robot R2

|                                                |                   |
|------------------------------------------------|-------------------|
| a) State of aggregation:                       | powder (solid)    |
| b) Colour:                                     | white             |
| c) Odor:                                       | chloric           |
| d) Melting point:                              | no data available |
| e) Boiling point:                              | no data available |
| f) Flammability:                               | no data available |
| g) Explosive limits (lower / upper):           | no data available |
| h) Flash point:                                | no data available |
| i) Flashing temperature:                       | no data available |
| j) Decomposition temperature:                  | no data available |
| k) pH value:                                   | 12,5              |
| l) Kinematic viscosity:                        | no data available |
| m) Solubility in water:                        | no data available |
| n) Dispersion coefficient ( $K_{o/w}$ ):       | no data available |
| o) Vapour pressure (20°C):                     | no data available |
| p) Specific gravity:                           | no data available |
| q) Relative vapour density ( $\rho_{air=1}$ ): | no data available |
| r) Particle size:                              | no data available |

### 8.4 mL Ammonium 50 robot reagent A

|                                                |                        |
|------------------------------------------------|------------------------|
| a) State of aggregation:                       | liquid                 |
| b) Colour:                                     | colourless             |
| c) Odor:                                       | odorless               |
| d) Melting point:                              | no data available      |
| e) Boiling point:                              | no data available      |
| f) Flammability:                               | no data available      |
| g) Explosive limits (lower / upper):           | no data available      |
| h) Flash point:                                | no data available      |
| i) Flashing temperature:                       | no data available      |
| j) Decomposition temperature:                  | no data available      |
| k) pH value:                                   | 6-8                    |
| l) Kinematic viscosity:                        | no data available      |
| m) Solubility in water:                        | no data available      |
| n) Dispersion coefficient ( $K_{o/w}$ ):       | no data available      |
| o) Vapour pressure (20°C):                     | no data available      |
| p) Specific gravity:                           | 1,00 g/cm <sup>3</sup> |
| q) Relative vapour density ( $\rho_{air=1}$ ): | no data available      |
| r) Particle size:                              | no data available      |

## 9.2 Other information

### 9.2.1 Information on physical hazard classes

no data available

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## 9.2.2 Other safety-related parameters

No data is available for the other parameters for the mixtures, since no registration and no chemical safety report is required.

□ □

## 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 the storage temperature printed on it. No more required.

### 10.5 Incompatible materials

no additional data available

### 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 the hazard classes according regulation (EC) 1272/2008

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

#### 20 x 175 mg Ammonium 3 Robot R2

Chemical: *lithium hydroxide*  
TSCA Inventory: listed  
Japan ISHL: listed  $\geq 0,3\% \geq 0,1\%$   
Korea Exist.Chem.Inventory: KE-22570  
LD50 orl rat : 210 mg/kg  
LC50 ihl rat : 3,4-6,15 mg/L/4H

CAS No.: 1310-65-2

#### Chemical: *sodium salicylate*

TSCA Inventory: listed  
Korea Exist.Chem.Inventory: KE-20384  
LD50 orl rat : 1000 mg/kg  
LC\_LoW orl hmn : 700 mg/kg

CAS No.: 54-21-7

Carcinogenic Effects: Suspected of damaging fertility or the unborn child. Suspected of damaging the unborn child.

#### Chemical: *ethylenedinitrilo tetraacetic acid, di Na-salt (EDTA-Na)*

TSCA Inventory: listed (CAS 139-33-3)  
LD50 orl rat : 2800 mg/kg

CAS No.: 6381-92-6

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

#### 8.4 mL Ammonium 50 robot reagent A

Chemical: *water*  
TSCA Inventory: listed  
Korea Exist.Chem.Inventory: KE-35400  
LD50 orl rat : > 90000 mg/kg

CAS No.: 7732-18-5

### 11.2 Other hazards

Possible endocrine disrupting effects



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no data available

## Other information

no additional data available

## SECTION 12: Ecological information

### 12.1 Toxicity

Following information is valid for pure substances.

#### 20 x 175 mg Ammonium 3 Robot R2

Substance name: *lithium hydroxide*

CAS-Nr.: 1310-65-2

PNEC (fresh water): 1.21 mg/L

PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected

LC50 fish/96h: 109 mg/L

EC50 daphnia/48h: 60 mg/L

EC50 pseudokirchneriella subcapitata/72h: IC50/72h: 44,74 mg/L

Water hazard class (DE): 2 WGK No.: 2439

Storage class (VCI): 8 B

Substance name: *sodium salicylate*

CAS-Nr.: 54-21-7

PNEC (fresh water): 0,0413 mg/L

PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected

Water hazard class (DE): 1

Storage class (VCI): 12-13

Substance name: *ethylendinitrilo tetraacetic acid, di Na-salt (EDTA-Na)*

CAS-Nr.: 6381-92-6

PNEC (fresh water): 2.2 mg/L

PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected

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 putida/16h: [EC10, 30h] 500 mg/L

Water hazard class (DE): 2

Storage class (VCI): 12-13

#### 8.4 mL Ammonium 50 robot reagent A

Substance name: *water*

CAS-Nr.: 7732-18-5

### 12.2 Persistence and degradability

### 12.3 Bioaccumulative potential

Substance name:

*ethylendinitrilo tetraacetic acid, di Na-salt (EDTA-Na)*

Dispersion coefficient ( $K_{ow}$ ):

-4,3

### 12.4 Mobility in soil

### 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Endocrine disrupting properties

no data available

### 12.7 Other adverse effects

no additional data available



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## 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

Not necessary, see above.

## 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 Carriage in bulk by sea in accordance with IMO instruments

Not applicable.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemicals Prohibition Ordinance - (DE: ChemVerbotsV), aktualisiert Jan 2017  
 Dangerous Substances Protection Act (DE: Chemikaliengesetz - ChemG), Aug 2013, Stand: Okt 2020  
 Ordinance on protection against dangerous substances (E: Gefahrstoffverordnung - GefStoffV), Nov 2010, Stand: Mrz 2017  
 TRGS 201, Classification and labeling of activities involving hazardous substances, Feb 2017  
 TRGS 220, National aspects when preparing safety data sheets, Jan 2017  
 TRGS 400, Risk assessment for activities involving hazardous substances, Jul 2017  
 BekGS 408, Application of the GefStoffV and the TRGS with the entry into force of the CLP regulation, December 2009, status: Jan 2012  
 TRGS 500, Protective measures, Mai 2008  
 TRGS 510, Storage of hazardous substances in portable containers from March 2013, status: Oct 2015  
 Wasserhaushaltsgesetz - WHG, Section 3 Handling substances hazardous to water, Jul 2009, status: Aug 2016  
 MN leaflet/instructions for use, also at [www.mn-net.com](http://www.mn-net.com)  
 If necessary, observe other country-specific regulations.

### 15.2 Chemical safety assessment

no data available

## SECTION 16: Other information

### 16.1 Changes compared to the last version

Between versions 3.6.1.1 and 2.2.2.2 following changes were applied: -0 product data corrected - 4 product component data corrected

### 16.2 List of H and P phrases

#### 16.2.1 List of relevant H phrases

|       |                                                                                                                                     |
|-------|-------------------------------------------------------------------------------------------------------------------------------------|
| H     | Between versions 3.6.1.1 and 2.2.2.2 following changes were applied: -0 product data corrected - 4 product component data corrected |
| H315  | Causes skin irritation.                                                                                                             |
| H318  | Causes serious eye damage.                                                                                                          |
| H319  | Causes serious eye irritation.                                                                                                      |
| H361  | Suspected of damaging fertility or the unborn child.                                                                                |
| H361d | Suspected of damaging the unborn child.                                                                                             |
| H373  | May cause damage to organs through prolonged or repeated exposure.                                                                  |

#### 16.2.2 List of relevant P phrases

|              |                                                                                                                                  |
|--------------|----------------------------------------------------------------------------------------------------------------------------------|
| P201         | Obtain special instructions before use.                                                                                          |
| P280sh       | Wear protective gloves/eye protection.                                                                                           |
| 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.                                                                                         |

### 16.3 Recommended restriction on use



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 52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

|    |                        |                                                              |
|----|------------------------|--------------------------------------------------------------|
| DE | Tel.: +49 24 21 969-0  | <a href="mailto:info@mn-net.com">info@mn-net.com</a>         |
| CH | Tel.: +41 62 388 55 00 | <a href="mailto:sales-ch@mn-net.com">sales-ch@mn-net.com</a> |
| FR | Tel.: +33 388 68 22 68 | <a href="mailto:sales-fr@mn-net.com">sales-fr@mn-net.com</a> |
| US | Tel.: +1 888 321 62 24 | <a href="mailto:sales-us@mn-net.com">sales-us@mn-net.com</a> |

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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 Sources of key data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021

Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres

Directive 2004/37/EC on the protection of workers from the risk of carcinogens or mutagens at workSUVA .CH, limit values in the air at work 2009, revised on 01/2009

Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)

Regulation 453/2010/EU, adaptation of the REACH regulation 1907/2006/EG

Regulation 487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP)

Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (7th ATP)

Regulation 776/2017/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (10th ATP)

TRGS 905, German rules of technology for carcinogenic and mutagenic substances, as of March 18, 2016

Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progressText (11th ATP)

Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)

Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)

TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019

Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)

Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG

Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP)

Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP)

Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)

Regulation 692/2022/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (18th ATP)

#### revisions/updates

Reason for revision: 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary

2014-04 adjustment according Regulation 487/2013/EU

2016-03 adjustment according Regulation 1221/2015/EU

2017-11 adjustment according the ECHA registration dossier

2022-11 adjustment according Regulation 878/2020/EU

### 16.5 Further information

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### 16.6 Legend / Abbreviations

|        |                                                                             |
|--------|-----------------------------------------------------------------------------|
| acc:   | according                                                                   |
| ADR:   | Convention concerning the International Carriage of Dangerous Goods by Road |
| Act:   | acute                                                                       |
| BAT:   | biological workplace tolerance value                                        |
| CAO:   | Cargo Aircraft Only                                                         |
| Carc:  | carcinogen                                                                  |
| CAS:   | Chemical Abstracts Service                                                  |
| CLP:   | Classification, Labelling and Packaging regulation                          |
| CMR:   | carcinogen, mutagen, reproduction toxic                                     |
| Corr:  | corrosive                                                                   |
| COD:   | chemical oxygen demand                                                      |
| CSCL:  | Chemical Substance Control Law (Jp)                                         |
| Dam:   | damage                                                                      |
| DNEL:  | Derived No-Effect Level (for workers)                                       |
| derm:  | dermal                                                                      |
| dog:   | dog                                                                         |
| EC10:  | Concentration causing a toxic effect in 10% of the test organisms           |
| EC:    | European Community                                                          |
| EC-Nr: | Substance number of the EC substance inventory                              |
| EmS:   | Guide to accident management measures on ships                              |
| EU:    | European Union                                                              |
| fish:  | fish (not spezified)                                                        |



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# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 985605.1

NANOCOLOR Ammonium 50, Robot

Page: 11/11

Printing date: 13.10.2025

Date of issue: 01.08.2025

Version: 3.6.1.1

|                       |                                                                      |
|-----------------------|----------------------------------------------------------------------|
| GHS:                  | Global Harmonized System of Classification and Labeling of Chemicals |
| gpg:                  | guinea pig                                                           |
| ICAO:                 | International Civil Aviation Organization                            |
| ihl:                  | inhaled                                                              |
| IMDG:                 | International Maritime Dangerous Goods Code                          |
| intrav:               | intravenous                                                          |
| ipt:                  | intraperitoneal                                                      |
| ISHL:                 | Industrial Safety and Health Law (Jp)                                |
| LC50:                 | lethal concentration 50%                                             |
| LD50:                 | lethal dose 50%                                                      |
| leuciscus idus:       | fisch, ide, orfe                                                     |
| MAK:                  | maximum workplace concentration                                      |
| Met:                  | Metall                                                               |
| mus:                  | mouse                                                                |
| Muta:                 | mutagen                                                              |
| NIOSH:                | National Institute for Occupational Safety and Health (US)           |
| NRD:                  | Non-rapidly degradable                                               |
| onchorhynchus mykiss: | fisch, rainbow trout                                                 |
| ori:                  | oral                                                                 |
| OSHA:                 | Occupational Safety and Health Administration                        |
| PAX:                  | transport on passenger planes allowed                                |
| PBT:                  | persistent, bioaccumulating, toxic substance                         |
| pH:                   | pH value                                                             |
| pimephales promelas:  | fisch, fathead minnow                                                |
| PNEC:                 | Predicted No Effect Concentration                                    |
| PROC 15:              | Process category 'for laboratory use'                                |
| PRTR:                 | Law for PRTR and Promotion of Chemical Management (Jp)               |
| PVC:                  | polyvinyl chloride                                                   |
| quail:                | bird, quail                                                          |
| rat:                  | rat                                                                  |
| rbt:                  | rabbit                                                               |
| RD:                   | rapidly degradable                                                   |
| RE:                   | repeated                                                             |
| REACH:                | Registration, Evaluation, Authorisation and Restriction of Chemicals |
| REF:                  | item number, reference number                                        |
| Reg.No.:              | rRegistration number                                                 |
| Repr:                 | harmful to reproduction                                              |
| Resp:                 | respiratory                                                          |
| RIP:                  | REACH Implementations Projects                                       |
| scu:                  | sub cutan                                                            |
| SDS:                  | safety data sheet                                                    |
| Sens:                 | sensitisation                                                        |
| STEL:                 | short term exposure limit                                            |
| STOT:                 | Specific Target Organ Toxicity                                       |
| SVHC:                 | Substance of Very High Concern                                       |
| t/a:                  | tons per year                                                        |
| TCCA:                 | Toxic Chemicals Control Act (S. Korea)                               |
| Tox:                  | toxic                                                                |
| TSCA:                 | The Toxic Substances Control Act (US)                                |
| TWA:                  | time weighted average                                                |
| TRGS:                 | technical regulations (DE)                                           |
| vPvB:                 | very persistent, very bioaccumulating substance                      |

## 16.7 Training advice

Regular safety training. 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.