

# Safety Data Sheet

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

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

### 1.1 Product identifier

REF 91802  
 Product name NANOCOLOR Aluminium

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 mL Aluminium R1  
 1 x 20 g Aluminium R2  
 2 x 100 mL Aluminium R3  
 2 x 100 mL Aluminium R4

### 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](mailto:sds@mn-net.com) ([msds@mn-net.com](mailto:msds@mn-net.com))

### 1.4 Emergency telephone number

Information not necessary.

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

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1

### 2.1 Classification of the substance or mixture

#### 20 mL Aluminium R1

Signal word Do not need labelling as hazardous  
 -

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1

#### 20 g Aluminium R2

Signal word Do not need labelling as hazardous  
 -

No hazard class



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## 100 mL Aluminium R3

Signal word

Do not need labelling as hazardous

-

No hazard class

## 100 mL Aluminium R4

Signal word

Do not need labelling as hazardous

-

No hazard class

## 2.2 Label elements

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).

### 20 mL Aluminium R1

Do not need labelling as hazardous

Signal word: -

### 20 g Aluminium R2

Do not need labelling as hazardous

Signal word: -

### 100 mL Aluminium R3

Do not need labelling as hazardous

Signal word: -

### 100 mL Aluminium R4

Do not need labelling as hazardous

Signal word: -

## 2.3 Other hazards

### Possible hazards from physicochemical properties

According to our current status of knowledge and experience we state, that this product does not contain any substances, which - in accordance with EC regulations 1272/2008/EC, 1907/2006/EC and German Regulations for Hazardous goods - have to be declared as dangerous goods, either because of their applied concentration or because of their total amount in anyone kit. An individual package has considerably less hazardous potential. The property H314 "Causes severe skin burns and eye damage." of some salts is not applicable, because the mixture is buffered to pH >3-4 (see GHS Directive 1272/2008/EC Annex I, chapter 3.2.3.1.2.). The sentence H290 "May be corrosive to metals." has only relevance for longer transportation time of larger amounts. The labelling GHS05 would be creating an "OVERLABELLING"(see GHS Directive 1272/2008/EC Annex I, chapter 1.5.2.1.3.). ---

### Information pertaining to particular risks to human and possible symptoms

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### Information pertaining to particular risks to the environment

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### Other hazards

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances or 3.2 Mixtures

#### 20 mL Aluminium R1

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Chemical: *hydrochloric acid* CAS No.: 7647-01-0  
 Classification: H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh.  
 Formula:  $\text{HCl} \cdot \text{H}_2\text{O}$   
 Pseudonym: aqueous hydrogen chloride  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119484862-27-xxxx  
 EC No.: 231-595-7 Indice No.: 017-002-01-X  
 RTECS: MW4025000  
 KE No.: KE-20189, >10% Toxic 97-1-203, Acc. Precaution Chem.  
 Concentration: 1 - <10 %  
 acc. CLP (GHS): H290, Met. Corr. 1

## 20 g Aluminium R2

Chemical: *L(+)-ascorbic acid* CAS No.: 50-81-7  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $\text{C}_6\text{H}_8\text{O}_6$   
 Pseudonym: vitamin C  
 TSCA Inventory: listed  
 REACH Reg. No.: exempt, Annex IV  
 EC No.: 200-066-2  
 RTECS: C17650000 MFCD: 00064328  
 KE No.: KE-01947  
 Concentration: 10 - <20 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

## 100 mL Aluminium R3

Chemical: *eriochrome cyanine R (metal indicator)* CAS No.: 3564-18-9  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $\text{C}_{23}\text{H}_{15}\text{N}_3\text{O}_9\text{S}$   
 Pseudonym: 3,3'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[6-hydroxy-5-methyl-benzoic acid, trisodium salt  
 TSCA Inventory: listed  
 EC No.: 222-641-7 MFCD: 00012411  
 Concentration: < 1,00 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

## 100 mL Aluminium R4

Chemical: *ammonium acetate* CAS No.: 631-61-8  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula:  $\text{C}_2\text{H}_7\text{NO}_2$   
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119828440-45-xxxx  
 EC No.: 211-162-9  
 RTECS: AF3675000 MFCD: 00013066  
 KE No.: KE-01629  
 Concentration: 40 - <60 %  
 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%.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately.

#### 4.1.1 After SKIN Contact

Not necessary.

#### 4.1.2 After EYE Contact

Not necessary.

#### 4.1.3 After INHALATION of vapours

Not necessary. ---

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- 4.1.4 After ORAL Intake**  
Not necessary. ---
- 4.2 Most important symptoms and effects, both acute and delayed**  
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- 4.3 Indication of any immediate medical attention and special treatment needed**  
No additionally recommendations. ---

## SECTION 5: Firefighting measures

- 5.1 Extinguishing media**  
Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.
- 5.2 Special hazards arising from the substance or mixture**  
None.
- 5.3 Advice for firefighters**  
No, for listed product. Product package burns like paper or plastic.
- 5.4 Additional information**  
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## SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Do not breathe vapours. Not necessary.
- 6.2 Environmental precautions**  
not necessary
- 6.3 Methods and material for containment and cleaning up**  
Clean working area with water. Flush used water into drains.
- 6.4 Reference to other sections**  
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## SECTION 7: Handling and storage

- 7.1 Precautions for safe handling**  
Handling in accordance with the test instruction, that comes with the product.
- 7.2 Conditions for safe storage, including any incompatibilities**  
The original product package of MACHEREY-NAGEL allows a safe storage.  
Storage class (VCI): 8B  
Water hazard class (DE): 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

**20 mL Aluminium R1**

Chemical: *hydrochloric acid*

CAS No.: 7647-01-0

DNEL: [inh] 8 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC(fresh water): 36 µg/L  
PNEC = Predicted No Effect Concentration

EU value: [TWA] 5 ppm / 8 mg/m<sup>3</sup>; [STEL] 10 ppm/ 15 mg/m<sup>3</sup>

TRGS 900 (DE): 2 mL/m<sup>3</sup> / 3 mg/m<sup>3</sup>  
E/e respirable

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

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skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded  
 SUVA(CH) MAK value: 2 ppm / 3\* mg/m<sup>3</sup>  
 NIOSH: [C] 5 ppm / 7 mg/m<sup>3</sup>  
 [TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period  
 OSHA: List of highly hazardous chemicals, toxics and reactives Yes (TQ = 5000 lbs) n/a; TWA 5 ppm / 7 mg/m<sup>3</sup>

**20 g Aluminium R2**

Chemical: *L(+)-ascorbic acid* CAS No.: 50-81-7

**100 mL Aluminium R3**

Chemical: *eriochrome cyanine R (metal indicator)* CAS No.: 3564-18-9

**100 mL Aluminium R4**

Chemical: *ammonium acetate* CAS No.: 631-61-8

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

**8.2 Exposure controls**

Not necessary. Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities.

**8.2.1 Respiratory protection**

Not necessary.

**8.2.2 Hand protection**

Not necessary.

**8.2.3 Eye protection**

Not necessary.

**8.2.4 Skin protection**

Not necessary.

**8.2.5 Personal hygiene**

Information not necessary.

## SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

**20 mL Aluminium R1**

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	0-1	
Specific gravity:	1,02 g/cm <sup>3</sup>	
Solubility in water:	0-100 %	

**20 g Aluminium R2**

Appearance: powder (solid)	Colour: colourless	Odor: odorless
pH:	5-7	
Solubility in water:	0-20 %	

**100 mL Aluminium R3**

Appearance: liquid	Colour: red	Odor: odorless
pH:	2-3	

**100 mL Aluminium R4**

Appearance: liquid	Colour: colourless	Odor: acetic
pH:	3-5	
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**

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None

### 10.2 Chemical stability

No known instability.

### 10.3 Possibility of hazardous reactions

None.

### 10.4 Conditions to avoid

Not known. Observe labeled storage temperature. ---

### 10.5 Incompatible materials

Not known.

### 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.

#### 20 mL Aluminium R1

Chemical:	<i>hydrochloric acid</i>	CAS No.: 7647-01-0
TSCA Inventory:	listed	California Proposition 65 List: not listed
Exposure Routes:	inhalation, ingestion (solution), skin and/or eye contact	
Target Organs:	Eyes, skin, respiratory system	
Symptoms:	irritation nose, throat, larynx; cough, choking; dermatitis; solution: eye, skin burns; liquid: frostbite; in animals: laryngeal spasm; pulmonary ede	
Australia NICNAS:	not listed	Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR:	not listed, Japan PDSCL: Deleterious Substance	
Japan ISHL:	listed $\geq 0,2\%/\geq 0,1\%$ , Article 57-2 (SDS required)	
South Korea TCCA:	Accident Precaution Chemical Yes	
Korea Exist.Chem.Inventory:	KE-20189, >10% Toxic 97-1-203, Acc. Precaution Chem.	
LD50 <sub>orl rat</sub> :	900 mg/kg	
LC50 <sub>drmm rbt</sub> :	>5010 mg/kg	

#### 20 g Aluminium R2

Chemical:	<i>L(+)-ascorbic acid</i>	CAS No.: 50-81-7
TSCA Inventory:	listed	
Korea Exist.Chem.Inventory:	KE-01947	
LD50 <sub>orl rat</sub> :	11900 mg/kg	
LD50 <sub>ivn mus</sub> :	518 mg/kg	

#### 100 mL Aluminium R3

Chemical:	<i>eriochrome cyanine R (metal indicator)</i>	CAS No.: 3564-18-9
TSCA Inventory:	listed	
LD50 <sub>orl rat</sub> :	>2000 mg/kg	

#### 100 mL Aluminium R4

Chemical:	<i>ammonium acetate</i>	CAS No.: 631-61-8
TSCA Inventory:	listed	California Proposition 65 List: not listed
Australia NICNAS:	not listed	Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR:	not listed, Japan PDSCL: not listed	
Japan ISHL:	not listed	
South Korea TCCA:	not listed	
Korea Exist.Chem.Inventory:	KE-01629	
LD50 <sub>orl rat</sub> :	632 mg/kg	

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## SECTION 12: Ecological information

### 12.1 Toxicity

Following information is valid for pure substances.

#### 20 mL Aluminium R1

Chemical:	<i>hydrochloric acid</i>	CAS No.:	7647-01-0
PNEC(fresh water) :	36 µg/L		
PNEC = Predicted No Effect Concentration			
LC50 <sub>fish/96h</sub> :	24.6 mg/L		
EC50 <sub>daphnia/48h</sub> :	0.492 mg/L		
EC50 <sub>pseudokirchneriella subcapitata/72h</sub> :	0.78 mg/L		
Water hazard class (DE):	1	WGK No.:	0238
Storage class (VCI):	8 B		

#### 20 g Aluminium R2

Chemical:	<i>L(+)-ascorbic acid</i>	CAS No.:	50-81-7
Water hazard class (DE):	1	WGK No.:	0737
Storage class (VCI):	13		

#### 100 mL Aluminium R3

Chemical:	<i>eriochrome cyanine R (metal indicator)</i>	CAS No.:	3564-18-9
Water hazard class (DE):	2		
Storage class (VCI):	10-13		

#### 100 mL Aluminium R4

Chemical:	<i>ammonium acetate</i>	CAS No.:	631-61-8
Bio Toxicity:	1/4.5/4.8		
LC50 <sub>fish/96h</sub> :	238 mg/L		
Water hazard class (DE):	1	WGK No.:	n.n.
Storage class (VCI):	12-13		

### 12.2 Persistence and degradability

not necessary

### 12.3 Bioaccumulative potential

not necessary

### 12.4 Mobility in soil

not necessary

### 12.5 Results of PBT and vPvB assessment

no data available

### 12.6 Other adverse effects

no additional data available

## SECTION 13: Disposal considerations

Not necessary.

### 13.1 Waste treatment methods

GENERAL: Empty solids into municipal waste, empty liquids diluted into drains. Normally it is possible to empty small amounts (diluted!) into drains.

## SECTION 14: Transport information

14.1 - 14.4: No dangerous goods according the transport regulations

### 14.5 Environmental hazards

none



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## 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  
 MN Leaflet/User manual, also see www.mn-net.com  
 Look for your country-specific regulations.

### 15.2 Chemical safety assessment

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## SECTION 16: Other information

### 16.1 List of H and P phrases

#### 16.1.1 List of relevant H phrases

H290 May be corrosive to metals.

#### 16.1.2 List of relevant P phrases

P390 Absorb spillage to prevent material damage.

### 16.2 Training advice

Regular safety training.

### 16.3 Recommended restriction on use

None

### 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, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
 Regulation 669/2018/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress  
 TRGS 900, German engineering rules governing limits in air at work, updated 03/2018  
 SUVA .CH, Limits in air at work 2009, revised on 01.2009  
 KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

#### Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU