

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 985838
 Product name NANOCOLOR Ethanol 1000

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.

23 x 9 mg Ethanol R0, lyophilized (R0)
 2 x 60 mL Ethanol R1
 1 x 6 mL Ethanol R2
 1 x 10 mL Ethanol 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
 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

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

9 mg Ethanol R0, lyophilized (R0)	
Signal word	Do not need labelling as hazardous
No hazard class	-
60 mL Ethanol R1	
Signal word	Do not need labelling as hazardous
No hazard class	-

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6 mL Ethanol R2

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

10 mL Ethanol R3

Signal word Do not need labelling as hazardous
-

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

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).

9 mg Ethanol R0, lyophilized (R0)

Do not need labelling as hazardous
Signal word: -

60 mL Ethanol R1

Do not need labelling as hazardous
Signal word: -

6 mL Ethanol R2

Do not need labelling as hazardous
Signal word: -

10 mL Ethanol R3

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 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

Information pertaining to particular risks to the environment

Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

9 mg Ethanol R0, lyophilized (R0)

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Chemical: *peroxidase* CAS No.: 9003-99-0
 Classification: No criteria for classification or naming of chemical not required.
 Formula: Enzyme Comm. No. 1.11.1.7, origin: horseradish
 TSCA Inventory: listed
 EC No.: 232-668-6 MFCD: 00071339
 Concentration: < 1.00 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *alginic acid, sodium salt* CAS No.: 9005-38-3
 Classification: No criteria for classification or naming of chemical not required.
 TSCA Inventory: listed MFCD: 00081310
 Concentration: 10 - <100 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

60 mL Ethanol R1

Chemical: *tris(hydroxymethyl)aminomethane* CAS No.: 77-86-1
 Classification: No criteria for classification or naming of chemical not required.
 Formula: $C_4H_{11}NO_3$
 Pseudonym: Trometamol, 2-amino-2-(hydroxymethyl)-1,3-propanediol
 TSCA Inventory: listed
 REACH Reg. No.: 01-2119957659-16-0014
 EC No.: 201-064-4
 RTECS: TY2900000 MFCD: 00004679
 KE No.: KE-01403
 Concentration: 1 - <3 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

6 mL Ethanol R2

Chemical: *tetramethylbenzidine* CAS No.: 54827-17-7
 Classification: No criteria for classification or naming of chemical not required.
 Formula: $C_{16}H_{20}N_2$
 Pseudonym: 3,3',5,5'-tetramethyl-[1,1'-biphenyl]-4,4'-diamine
 TSCA Inventory: listed
 EC No.: 259-364-6
 RTECS: DV2300000 MFCD: 00007778
 Concentration: < 1.00 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

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: 60 - <80 %
 acc. CLP (GHS): The criteria for classification are not fulfilled.

10 mL Ethanol R3

Chemical: *hydrochloric acid* CAS No.: 7647-01-0
 Classification: H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh.
 Formula: $HCl \cdot H_2O$
 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

3.3 Remarks

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When not listed, mixtures are added with water [CAS No. 7732-18-5] to 100%.

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. ---

4.1.4 After ORAL Intake

Not necessary. ---

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

No additionally recommendations. ---

SECTION 5: Firefighting measures

5.1 Extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

5.2 Special hazards arising from the substance or mixture

None.

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. 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

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): 8B

Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers

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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

9 mg Ethanol R0, lyophilized (R0)

Chemical: *peroxidase*

CAS No.: 9003-99-0

Chemical: *alginic acid, sodium salt*

CAS No.: 9005-38-3

60 mL Ethanol R1

Chemical: *tris(hydroxymethyl)aminomethane*

CAS No.: 77-86-1

DNEL: [derm] 166.7 mg/kg bw/day; [inh] 117.5 mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC^(fresh water): no data mg/L

PNEC = Predicted No Effect Concentration

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

6 mL Ethanol R2

Chemical: *tetramethylbenzidine*

CAS No.: 54827-17-7

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 Effect 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

10 mL Ethanol R3

Chemical: *hydrochloric acid*

CAS No.: 7647-01-0

DNEL: [inh] 8 mg/m³

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/m³; [STEL] 10 ppm / 15 mg/m³

TRGS 900 (DE): 2 mL/m³ / 3 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: 2 ppm / 3* mg/m³

NIOSH: [C] 5 ppm / 7 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: List of highly hazardous chemicals, toxics and reactives Yes (TQ = 5000 lbs) n/a; TWA 5 ppm / 7 mg/m³

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

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- 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

9 mg Ethanol R0, lyophilized (R0)

Appearance: solid	Colour: colourless	Odor: fusty, mouldy
pH:	7-7,5	
Solubility in water:	0-100 %	

60 mL Ethanol R1

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	7,2	
Specific gravity:	1,0 g/cm ³	
Solubility in water:	0-100 %	

6 mL Ethanol R2

Appearance: liquid	Colour: colourless	Odor: fusty, mouldy
pH:	6-8	
Specific gravity:	1,06 g/cm ³	

10 mL Ethanol R3

Appearance: liquid	Colour: colourless	Odor: odorless
pH:	0-1	
Specific gravity:	1,02 g/cm ³	
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

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.

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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.

9 mg Ethanol R0, lyophilized (R0)

Chemical: *peroxidase* CAS No.: 9003-99-0
 TSCA Inventory: listed

Chemical: *alginate acid, sodium salt* CAS No.: 9005-38-3
 TSCA Inventory: listed

60 mL Ethanol R1

Chemical: *tris(hydroxymethyl)aminomethane* CAS No.: 77-86-1
 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-01403
 LD50_{orl rat}: 5000 mg/kg

6 mL Ethanol R2

Chemical: *tetramethylbenzidine* CAS No.: 54827-17-7
 TSCA Inventory: listed
 LD50_{ipr rat}: 135 mg/kg

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

10 mL Ethanol R3

Chemical: *hydrochloric acid* 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 edema
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
 Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance
 Japan ISHL: listed ≥0.2%/≥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_{orl rat}: 900 mg/kg
 LC50_{drm rbt}: >5010 mg/kg

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

9 mg Ethanol R0, lyophilized (R0)

Chemical: *peroxidase* CAS No.: 9003-99-0
 Water hazard class (DE): 1 WGK No.: n.n.
 Storage class (VCI): 13

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Chemical: *alginic acid, sodium salt* CAS No.: 9005-38-3

60 mL Ethanol R1

Chemical: *tris(hydroxymethyl)aminomethane* CAS No.: 77-86-1
 PNEC(fresh water) : no data mg/L
 PNEC = Predicted No Effect Concentration
 LC50_{fish/96h} : LD0 (4d): 1-10 g/L
 EC50_{pseudokirchneriella subcapitata/72h} : 397;48h: 473 mg/L
 EC10_{pseudomonas putita/16h} : 13h g/L
 Water hazard class (DE): 2
 Dispersion coefficient(octanol-water) : -1.56
 Storage class (VCI): 12-13

6 mL Ethanol R2

Chemical: *tetramethylbenzidine* CAS No.: 54827-17-7
 Water hazard class (DE): 3
 Storage class (VCI): 12-13

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5
 PNEC(fresh water) : 17 mg/L
 PNEC = Predicted No Effect 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
 Dispersion coefficient(octanol-water) : -1.35
 Storage class (VCI): 12

10 mL Ethanol R3

Chemical: *hydrochloric acid* CAS No.: 7647-01-0
 PNEC(fresh water) : 36 µg/L
 PNEC = Predicted No Effect Concentration
 LC50_{fish/96h} : 24.6 mg/L
 EC50_{daphnia/48h} : 0.492 mg/L
 EC50_{pseudokirchneriella subcapitata/72h} : 0.78 mg/L
 Water hazard class (DE): 1 WGK No.: 0238
 Storage class (VCI): 8 B

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.

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SECTION 14: Transport information

14.1 - 14.4 Not necessary

14.5 Environmental hazards

none

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

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, 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
 KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

Revisions/Updates

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