

# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 985028

NANOCOLOR COD 15000

Page: 1/13

Printing date: 15.05.2024

Date of issue: 26.09.2022

Version: 2.2.2.20

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

### 1.1 Product identifier

REF 985028  
Product name NANOCOLOR COD 15000

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 4 mL COD 15 000 (R0) UFI: 54TU-N3GX-0204-DW2K

### 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
H302	Acute Tox. 4 oral
H312	Acute Tox. 4 derm.
H314	Skin Corr. 1 B
H317	Skin Sens. 1
H332	Acute Tox. 4 inh.
H340	Muta. 1 B
H350	Carc. 1 A
H373	STOT RE 2
H412	Aquatic Chronic 3

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

4 mL COD 15 000 (R0)



MACHEREY-NAGEL GmbH & Co. KG  
Valenciennner Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 info@mn-net.com  
CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com  
FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com  
US Tel.: +1 888 321 62 24 sales-us@mn-net.com

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GHS05



GHS07



GHS08

Signal word

DANGER

## Hazard identification

## Hazard classes/categories

H302	Acute Tox. 4 oral
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H314	Skin Corr. 1 B
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H340	Muta. 1 B
H350	Carc. 1 A
H373	STOT RE 2
H412	Aquatic Chronic 3

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). This labelling exemption is NOT valid for sensiblizing substances.

4 mL COD 15 000 (R0)



GHS05



GHS08

Signal word: DANGER

H314, H317, H340, H350

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause genetic defects. May cause cancer.

P201, P202, P260sh, P264, P280sh, P303+361+353, P305+351+338, P310, P333+313, P405, P501

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/vapours. Wash hands thoroughly after handling. 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. If skin irritation or rash occurs: Get medical advice/attention. Store locked up. Dispose of contents/container to regulated waste treatment.

## Label elements of the complete product



GHS05



GHS08

Signal word: DANGER

H314, H317, H340, H350

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause genetic defects. May cause cancer.

P201, P202, P260sh, P264, P280sh, P303+361+353, P305+351+338, P310, P333+313, P405, P501

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/vapours. Wash hands thoroughly after handling. 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. If skin irritation or rash occurs: Get medical advice/attention. Store locked up. Dispose of contents/container to regulated waste treatment.

# Safety Data Sheet

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REF: 985028

NANOCOLOR COD 15000

Page: 3/13

Printing date: 15.05.2024

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## 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.

### 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 genetic defects. May cause cancer. May cause cancer if inhaled. Can accumulate within the body.

The risk assessment of the tube tests showed no risk H331 "Toxic if inhaled." at the application.

### Information pertaining to particular risks to the environment

Should not be released into 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

#### 4 mL COD 15 000 (R0)

Substance name: *silver sulfate*  
CAS No.: 10294-26-5

Substance rating: H318, Eye Dam. 1, H400, Aquatic Acute 1, H410, Aquatic Chronic 2

Formula:  $\text{Ag}_2\text{SO}_4$

Pseudonym (de): Disilber(I)-sulfat

REACH Reg. No.: 01-2119918297-31-xxxx

EC No.: 233-653-7

Concentration: 0,1 - <1 %

Correlation factor: x 0.69 (= %Ag)

The classification refers to the weight percentage of the metal (according to CLP regulation 2008/1272/EG Annex VI, 1.1.3.2 Note 1)

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

Substance name: *sulfuric acid*  
CAS No.: 7664-93-9

Substance rating: H314, Skin Corr. 1 B

Formula:  $\text{H}_2\text{SO}_4 \cdot (\text{H}_2\text{O})$

REACH Reg. No.: 01-2119458838-20-xxxx

EC No.: 231-639-5

Indice No.: 016-020-00-8

Specific concentration limit: Eye Irrit. 2; H319: 5 % ≤ C < 15 % - Skin Irrit. 2; H315: 5 % ≤ C < 15 % - Skin Corr 1A; H314 c ≥ 15%

Concentration: 51 - <65 %

acc. CLP (GHS): H314, Skin Corr. 1 B

Substance name: *potassium dichromate*  
CAS No.: 7778-50-9

Substance rating: H272, Ox. Liq. 2, H301, Acute Tox. 3 oral, H312, Acute Tox. 4 derm., H314, Skin Corr. 1 B, H317, Skin Sens. 1, H318, Eye Dam. 1, H330, Acute Tox. 2 inh., H334, Resp. Sens. 1, H335, resp. irrit. STOT SE 3, H340, Muta. 1 B, H350, Carc. 1 A, H360FD, Repr. 1 B, H372, STOT RE 1, H400, Aquatic Acute 1, H410, Aquatic Chronic 1

Formula:  $\text{K}_2\text{Cr}_2\text{O}_7$

Pseudonym (de): Kaliumbichromat

REACH Reg. No.: 01-2119454792-32-0004

SVHC listed: < exempt for formulation+use acc. Art.56(3)+Q&A1030

EC No.: 231-906-6

Indice No.: 024-002-00-6

Specific concentration limit: STOT SE 3; H335 c ≥ 5%

Concentration: 0,32 - <0,38 %

Correlation factor: x 0.79 (= %CrO<sub>4</sub>)

The classification refers to the weight percentage of the metal (according to CLP regulation 2008/1272/EG Annex VI, 1.1.3.2 Note 1)

acc. CLP (GHS): H312, Acute Tox. 4 derm., H317, Skin Sens. 1, H340, Muta. 1 B, H350, Carc. 1 A, H373, STOT RE 2, H412, Aquatic Chronic 3



MACHEREY-NAGEL GmbH & Co. KG  
Valencienner Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)

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NANOCOLOR COD 15000

Page: 4/13

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Substance name: *mercury(II) sulfate*  
CAS No.: 7783-35-9

Substance rating: H300, Acute Tox. 2 oral, H310, Acute Tox. 1 derm., H330, Acute Tox. 2 inh., H373, STOT RE 2, H400, Aquatic Acute 1, H410, Aquatic Chronic 1

Formula: HgSO<sub>4</sub>

REACH Reg. No.: not necessary, amount <1 t/a

EC No.: 231-992-5

Indice No.: 080-004-00-7

Specific concentration limit: STOT RE 2 H373; c ≥ 0,1%

Concentration: 0,37 - <0,74 % Correlation factor: x 0.68 (= %Hg)

The classification refers to the weight percentage of the metal (according to CLP regulation 2008/1272/EG Annex VI, 1.1.3.2 Note 1)

acc. CLP (GHS): H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H332, Acute Tox. 4 inh., H373, STOT RE 2, H412, Aquatic Chronic 3

## 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

Causing allergies. 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.

#### 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. ---

#### 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: Potassium dichromate: Repeated contact, even in small amounts, can lead to sensitization. Rapid penetration and destruction of the skin. Especially in the heated form.

Causes severe skin burns and eye damage.

CMR Effekte: May cause genetic defects. May cause cancer. May cause cancer if inhaled. Can accumulate in the body.

### 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

#### 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



MACHEREY-NAGEL GmbH & Co. KG  
Valenciennener Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)

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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. 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

Should not be released into the environment.

PBT: not applicable

vPvB: not applicable

### 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 5.4,7,8 and 13

## 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. Products which are also classified as toxic must be kept under lock and key. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 8B

Water hazard class (DE): 3

#### 7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage, so that they are not immediately accessible to outside parties. 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

4 mL COD 15 000 (R0)

Chemical: mercury(II) sulfate

CAS No.: 7783-35-9

EU value: [Hg] 0.02 e mg/m<sup>3</sup>

TRGS 900 (DE): [Hg] 0,02 E mg/m<sup>3</sup>

E/e respirable

Short-term exposure factor: 8 (I), H, Sh

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

SUVA(CH) MAK value: [Hg][MAK] 0.02 e/[STEL] 0,16 e mg/m<sup>3</sup>

SUVA(CH) BAT value: [Krea U/d] 35 µg/L

TRGS 903 (DE): [U/a Kreatinin] 25 µg/g

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

NIOSH: [Hg Vapor: TWA<sub>skin</sub>] 0.05; other 0.1 mg/m<sup>3</sup>



MACHEREY-NAGEL GmbH & Co. KG  
Valencienn Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)

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REF: 985028

NANOCOLOR COD 15000

Page: 6/13

Printing date: 15.05.2024

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[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period  
OSHA: [TWA] 0.1 mg/m<sup>3</sup>

Chemical: *potassium dichromate* CAS No.: 7778-50-9

DNEL: [inh] 0.01 mg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): [CrVI] (0,05 E ausgesetzt) mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: (4), H  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 0,05 e mg/m<sup>3</sup>

SUVA(CH) BAT value: [U/b] 20 µg/L

NIOSH: NTP Report on Carcinogens (RoC) List Yes (Chromium VI - Known to be a human carcinogen); TWA

8h 0.0002 CrO<sub>3</sub> 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: [CrO<sub>3</sub>][TWA] 0.005 mg/m<sup>3</sup>

Chemical: *silver sulfate*

CAS No.: 10294-26-5

DNEL: no data

DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 0.04 µg/L

PNEC = Predicted No Effect Concentration

EU value: [Ag] 0.01e mg/m<sup>3</sup>

TRGS 900 (DE): [Ag] 0,01 E mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 2 (I)  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

NIOSH: [TWA] 0.01 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: [TWA] 0.01 mg/m<sup>3</sup>

Chemical: *sulfuric acid*

CAS No.: 7664-93-9

DNEL: [inh] 50 µg/m<sup>3</sup>

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/m<sup>3</sup>

TRGS 900 (DE): 0.1 E mg/m<sup>3</sup>  
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/m<sup>3</sup>

NIOSH: NTP Report on Carcinogens (RoC) List Yes (Known to be a human carcinogen); [TWA] 1 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: [TWA] 1 mg/m<sup>3</sup>

## 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

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.

### 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.



# Safety Data Sheet

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REF: 985028

NANOCOLOR COD 15000

Page: 7/13

Printing date: 15.05.2024

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**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

**4 mL COD 15 000 (R0)**

a) State of aggregation:	liquid
b) Colour:	brown
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:	0
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (K <sub>ow</sub> ):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1,53 g/cm <sup>3</sup>
q) Relative vapour density (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

**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.  
☐ ☐  
Substances are highly corrosive.

## 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**  
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.



MACHEREY-NAGEL GmbH & Co. KG  
Valencienner Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)

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NANOCOLOR COD 15000

Page: 8/13

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## 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.

#### 4 mL COD 15 000 (R0)

Chemical: *mercury(II) sulfate* CAS No.: 7783-35-9  
TSCA Inventory: listed California Proposition 65 List: listed developmental  
Exposure Routes: inhalation, skin absorption, ingestion, skin and/or eye contact  
Target Organs: Eyes, skin, respiratory system, central nervous system, kidneys  
Symptoms: irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache  
Australia NICNAS: not listed Canada CEPA 1999: yes (mercury compound - Item 8.)  
Japan CSCL/PRTR: PRTR:  $\geq 1,0\%$  Hg class I, Japan PDSC: Poisonous substance  
Japan ISHL: listed  $\geq 0,3\%/\geq 0,1\%$ , Article 57-2 (SDS required)  
South Korea TCCA: not listed  
Korea Exist.Chem.Inventory: KE-23132, Toxic 97-1-140  
LD50 orl rat: 57 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 damage to organs through prolonged or repeated exposure.  
TRGS 907 (DE): Sh

Chemical: *potassium dichromate* CAS No.: 7778-50-9  
TSCA Inventory: listed California Proposition 65 List: listed cancer, developmental, female, male  
ACGIH: [CrVI] 0.05 mg/m<sup>3</sup>  
Exposure Routes: inhalation, ingestion, skin and/or eye contact  
Target Organs: Blood, respiratory system, liver, kidneys, eyes, skin; [lung cancer]  
Symptoms: irritation respiratory system; nasal septum perforation; liver, kidney damage; leukocytosis (increased blood leukocytes), leukopenia (reduced blood le  
Japan CSCL/PRTR: PRTR:  $\geq 0,1\%$  Cr specific class I, Japan PDSC: Deleterious substance  
Japan ISHL: listed  $\geq 0,1\%/\geq 0,1\%$ , Article 57-2 (SDS required)  
South Korea TCCA: yes, Restricted Chemical  
Korea Exist.Chem.Inventory: not listed  
LD50 orl rat: 25 mg/kg  
LC<sub>50</sub> orl gpg: 163 mg/kg  
LC50 ihl rat: 0,094 mg/L/4H  
Acute Effects: Cause after 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 damage to organs through prolonged or repeated exposure.  
Carcinogenic Effects: May cause genetic defects. May cause cancer. May cause cancer if inhaled.  
EU carcinogen: carc. 1B, mutag. 1B, repr. 1B  
TRGS 905 (DE): K2  
TRGS 907 (DE): Sh

Chemical: *silver sulfate* CAS No.: 10294-26-5  
TSCA Inventory: listed  
Exposure Routes: inhalation, ingestion, skin and/or eye contact  
Target Organs: Nasal septum, skin, eyes  
Symptoms: Blue-gray eyes, nasal septum, throat, skin; irritation, ulceration skin; gastrointestinal disturbance  
Japan CSCL/PRTR: PRTR:  $\geq 1,0\%$  Ag class I, Japan PDSC: Deleterious substance  
Japan ISHL: listed  $\geq 1,0\%/\geq 0,1\%$   
Korea Exist.Chem.Inventory: KE-12273, >25% Toxic 97-1-92  
LD50 orl rat: 2000-5110 mg/kg

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; stomatis; dental erosion; eye, skin burns; dermatitis  
Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
Japan CSCL/PRTR: not listed, Japan PDSC: Deleterious Substance  
Japan ISHL: listed  $\geq 1,0\%/\geq 1,0\%$ , Article 57-2 (SDS required)  
South Korea TCCA: Accident Precaution Chemical Yes  
Korea Exist.Chem.Inventory: KE-32570, >10% Toxic 97-1-405, Acc. Precaution Chem.  
LD50 orl rat: 2140 mg/kg  
LC50 ihl mus: 0,85 mg/L/4H



MACHEREY-NAGEL GmbH & Co. KG  
Valencienn Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)



# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 985028

NANOCOLOR COD 15000

Page: 9/13

Printing date: 15.05.2024

Date of issue: 26.09.2022

Version: 2.2.2.20

TRGS 905 (DE):

Kat 4

## 11.2 Other hazards

### Possible endocrine disrupting effects

no data available

### Other information

no additional data available

## SECTION 12: Ecological information

### 12.1 Toxicity

Following information is valid for pure substances.

#### 4 mL COD 15 000 (R0)

Substance name: *mercury(II) sulfate*

CAS-Nr.: 7783-35-9

Harmful to aquatic life with long lasting effects. Do not release into the environment.

Environmentally hazardous substances/mixtures do not have to be labeled with P-phrases up to 125 mL (EU 1272/2008 Annex I Paragraph 1.5.2).

Bio Toxicity: LC 50 : 0.5 HgCl<sub>2</sub>/48h mg/L

Water hazard class (DE): 3 WGK No.: 0412

Storage class (VCI): 6.1 B

Substance name: *potassium dichromate*

CAS-Nr.: 7778-50-9

Harmful to aquatic life with long lasting effects. Do not release into the environment.

Environmentally hazardous substances/mixtures do not have to be labeled with P-phrases up to 125 mL (EU 1272/2008 Annex I Paragraph 1.5.2).

LC50 fish/96h : 26.13 mg/L

EC50 daphnia/48h : 0.77 mg/L

Water hazard class (DE): 3 WGK No.: 339

Storage class (VCI): 6.1 B

Substance name: *silver sulfate*

CAS-Nr.: 10294-26-5

PNEC (fresh water) : 0.04 µg/L

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

LC50 daphnia magna/48h : 0.22 µg/L

LC50 fish/96h : [4d] 1.2 µg/L

EC10 pseudomonas putida/16h : [24h] 0.41-0.54 µg/L

Water hazard class (DE): 3

Storage class (VCI): 12

Substance name: *sulfuric acid*

CAS-Nr.: 7664-93-9

Do not release into the environment.

PNEC (fresh water) : 2.5 µg/L

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

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

### 12.2 Persistence and degradability

### 12.3 Bioaccumulative potential

### 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.

# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 985028	NANOCOLOR COD 15000	Page: 10/13
Printing date: 15.05.2024	Date of issue: 26.09.2022	Version: 2.2.2.20

## 12.6 Endocrine disrupting properties

no data available

## 12.7 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). Close container tightly.

### 13.1 Waste treatment methods

Not necessary, see above.

## 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 ADR

Classification code: M11 Tunnel restriction code: E

Limited Quantity: acc. ADR 3.3.1/251: see LQ in Alternative declaration for transportation

Air transport IATA DGR

Limited Quantity: PAX: 960 max. quantity PAX: 10 KG  
CAO: 960 max. quantity CAO: 10 KG

Maritime transport IMDG

EmS: F-A, S-P Staukategorie: A

Or use Alternative declaration for transportation:

14.1 UN number: 2922

14.2 UN proper shipping name: Corrosive liquid, toxic, n.o.s. (mercury(II) sulfate, sulfuric acid solution)

14.3 Class: 8 Additionally class: 6.1

14.4 Packing group: II

Road transport ADR

Classification code: CT1

Limited Quantity: 1 L Tunnel restriction code: E

Excepted Quantity: E 2

Air transport IATA DGR

Limited Quantity: PAX: 851 max. quantity PAX: 1 L  
CAO: 855 max. quantity CAO: 30 L

Excepted Quantity: E 2

Maritime transport IMDG

EmS: F-A, S-B Staukategorie: B

Special instructions: 274

### 14.5 Environmental hazards

none, contains only small quantities of hazardous substances, contains only small amounts of these 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



MACHEREY-NAGEL GmbH & Co. KG  
Valencienner Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)

# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 985028

NANOCOLOR COD 15000

Page: 11/13

Printing date: 15.05.2024

Date of issue: 26.09.2022

Version: 2.2.2.20

TRGS 400, Risk assessment for activities involving hazardous substances, Jul 2017  
 TRGS 401, Skin contact hazard - identification, assessment, action, Jun 2008, status: Feb 2011  
 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  
 Chapter 4, Measures when storing hazardous substances up to 50 kg (small quantity regulation)  
 Wasserhaushaltsgesetz - WHG, Section 3 Handling substances hazardous to water, Jul 2009, status: Aug 2016  
 TRGS 561, Activities involving carcinogenic metals and their compounds, Oct 2017  
 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 not necessary for these small amounts

## SECTION 16: Other information

### 16.1 Changes compared to the last version

Between versions 2.2.2.20 and 2.2.2.2 following changes were applied: - 18 substance data corrected

### 16.2 List of H and P phrases

#### 16.2.1 List of relevant H phrases

H Between versions 2.2.2.20 and 2.2.2.2 following changes were applied: - 18 substance data corrected  
 H302 Harmful if swallowed.  
 H312 Harmful in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H332 Harmful if inhaled.  
 H340 May cause genetic defects.  
 H350 May cause cancer.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H412 Harmful to aquatic life with long lasting effects.

#### 16.2.2 List of relevant P phrases

P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P260sh Do not breathe dust/vapours.  
 P264 Wash hands thoroughly after handling.  
 P280sh Wear protective gloves/eye protection.  
 P303+361+353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
 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.  
 P333+313 If skin irritation or rash occurs: Get medical advice/attention.  
 P405 Store locked up.  
 P501 Dispose of contents/container to regulated waste treatment.

### 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 ArbSchG)!  
 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  
 TRGS 907, German technical rules for listing substances and causes of sensitization, updated November 2011 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/EG to technical and scientific progress (11th ATP)  
 Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)



MACHEREY-NAGEL GmbH & Co. KG  
 Valencienner Str. 11  
 52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
 CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
 FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
 US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)

# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 985028

NANOCOLOR COD 15000

Page: 12/13

Printing date: 15.05.2024

Date of issue: 26.09.2022

Version: 2.2.2.20

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 specified)  
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: letale concentration 50%  
LD50: letale dosis 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



MACHEREY-NAGEL GmbH & Co. KG  
Valenciennr Str. 11  
52355 Düren · Germany  
[www.mn-net.com](http://www.mn-net.com)

DE Tel.: +49 24 21 969-0 [info@mn-net.com](mailto:info@mn-net.com)  
CH Tel.: +41 62 388 55 00 [sales-ch@mn-net.com](mailto:sales-ch@mn-net.com)  
FR Tel.: +33 388 68 22 68 [sales-fr@mn-net.com](mailto:sales-fr@mn-net.com)  
US Tel.: +1 888 321 62 24 [sales-us@mn-net.com](mailto:sales-us@mn-net.com)

# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 985028

NANOCOLOR COD 15000

Page: 13/13

Printing date: 15.05.2024

Date of issue: 26.09.2022

Version: 2.2.2.20

orl: oral  
 OSHA: Occupational Safety and Health Administration  
 PAX: transport on passenger planes allowed  
 PBT: persistent, bioaccumulating, toxic substance  
 pH: pH value  
 pimephales promelas: fish, 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.