

# Safety Data Sheet

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

REF: 985060	NANOCOLOR Sulfate MR 400	Page: 1/11
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## SECTION 1: Identification of the substance/mixture and of the company

### 1.1 Product identifier

REF 985060  
 Product name NANOCOLOR Sulfate MR 400

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 65 mg Sulfate MR 400 (R1) UFI: UNJW-13T0-G20D-FP3J  
 2 x 11 mL Sulfate MR 400 (R2)

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses**  
 Product for analytical use.  
 Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0  
 The exposure scenario is integrated into sections 1-16.

**Uses advised against**  
 not described

### 1.3 Details of the supplier of the safety data sheet

**Manufactured by:**  
 MACHEREY-NAGEL GmbH & Co. KG  
 Valencienner Str. 11, 52355 Düren, Germany  
 Phone: +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

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>>

*Lieferant / Supplier*  
*Carl Roth GmbH + Co KG*  
*Schoemperlenstr. 3-5*  
*76185 Karlsruhe, Germany*  
*+49 721 5606 0*  
*sicherheit@carlroth.de*

## SECTION 2: Hazard identification

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



Signal word	WARNING
<b>Hazard identification</b>	<b>Hazard classes/categories</b>
H302	Acute Tox. 4 oral
H332	Acute Tox. 4 inh.
H373	STOT RE 2
H412	Aquatic Chronic 3

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

65 mg Sulfate MR 400 (R1)



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Signal word	WARNING
<b>Hazard identification</b>	<b>Hazard classes/categories</b>
H302	Acute Tox. 4 oral
H332	Acute Tox. 4 inh.
H373	STOT RE 2
H412	Aquatic Chronic 3

### 11 mL Sulfate MR 400 (R2)

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).

### 65 mg Sulfate MR 400 (R1)



Signal word: WARNING

### 11 mL Sulfate MR 400 (R2)

Do not need labelling as hazardous  
Signal word: -

### Label elements of the complete product



Signal word: WARNING

## 2.3 Other hazards

### Possible hazards from physicochemical properties

**Information pertaining to particular risks to human and possible symptoms**  
Cause after oral intake, impairments of health when ingested in small quantities.

**Information pertaining to particular risks to the environment**

**Possible endocrine disrupting effects**  
no data available

## SECTION 3: Composition / information on ingredients

### 3.1 Substances or 3.2 Mixtures

#### 65 mg Sulfate MR 400 (R1)



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- 4.1.4 **After ORAL Intake**  
After oral intake lots of water should be drunk after it has been ingested.
- 4.2 **Most important symptoms and effects, both acute and delayed**
- 4.3 **Indication of any immediate medical attention and special treatment needed**  
No additionally recommendations. ---

## SECTION 5: Firefighting measures

- 5.1 **Extinguishing media**
  - 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. 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**

## SECTION 6: Accidental release measures

- 6.1 **Personal precautions, protective equipment and emergency procedures**  
Do not breathe vapours. Regular staff training is necessary.
- 6.2 **Environmental precautions**  
not necessary, contains only small amounts of these substances
- 6.3 **Methods and material for containment and cleaning up**  
Bind any escaping liquid with inert absorbent.  
Collect small amounts of leaked liquid and flush with water into drains.
- 6.4 **Reference to other sections**

## SECTION 7: Handling and storage

- 7.1 **Precautions for safe handling**  
Handling in accordance with the test instruction, that comes with the product. Use a safety bottle when shaking test tubes.
- 7.2 **Conditions for safe storage, including any incompatibilities**  
Safe storage is guaranteed in the original packaging . Storage class (German chemical industry): see chapter 12.1  
**Storage class (VC1):** 6.1B  
**Water hazard class (DE):** 3
- 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.



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## SECTION 8: Exposure controls /personal protection

### 8.1 Control parameters

#### 65 mg Sulfate MR 400 (R1)

Chemical: *barium chloride*

CAS No.: 10361-37-2

EU value: 0.5 Ba e mg/m<sup>3</sup>

TRGS 900 (DE): 0,5 Ba E mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 1 (1)

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

SUVA(CH) MAK value: 0,5 e mg/m<sup>3</sup>

NIOSH: TWA 0.5 Ba 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 0.5 Ba mg/m<sup>3</sup>

Chemical: *hexadecyl-trimethylammonium bromide*

CAS No.: 57-09-0

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

CAS No.: 6381-92-6

DNEL: [inh] 1.5 mg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 2.2 mg/L

PNEC = Predicted No Effected Concentration

#### 11 mL Sulfate MR 400 (R2)

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

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection.

#### 8.2.4 Skin protection

Not necessary.

#### 8.2.5 Personal hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

#### 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

#### 65 mg Sulfate MR 400 (R1)

a) State of aggregation:	solid (lyophilized)
b) Colour:	white
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:	no data available



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l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	0,07 g/cm <sup>3</sup>
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

## 11 mL Sulfate MR 400 (R2)

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:	no data available
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (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 (air=1) :	no data available
r) Particle size:	no data available

## 9.2 Other information

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

**Properties relevant to substance groups**

## 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.

### 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.

**65 mg Sulfate MR 400 (R1)**



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Chemical: *barium chloride* CAS No.: 10361-37-2  
 TSCA Inventory: listed  
 Exposure Routes: inhalation, ingestion, skin and/or eye contact  
 Target Organs: Eyes, skin, respiratory system, heart, central nervous system  
 Symptoms: irritation eyes, skin, upper respiratory system; skin burns; gastroenteritis; muscle spasm; slow pulse, extrasystoles; hypokalemia  
 Japan CSCL/PRTR: not listed, Japan PDSCl: Deleterious substance  
 Japan ISHL: listed ≥1,0%/≥1,0%  
 Korea Exist.Chem.Inventory: KE-02037  
 LD50 orl rat : 118 mg/kg  
 LC<sub>LoW</sub> orl hmn : 11,4 mg/kg  
 Acute Effects: Cause after oral intake, skin contact, impairments of health when ingested in small quantities.

Chemical: *hexadecyl-trimethylammonium bromide* CAS No.: 57-09-0  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-34534, Toxic 2000-1-509  
 LD50 orl rat : 410 mg/kg

Chemical: *ethylendinitrilo tetraacetic acid, di Na-salt (EDTA-Na)* CAS No.: 6381-92-6  
 TSCA Inventory: listed (CAS 139-33-3)  
 LD50 orl rat : 2800 mg/kg

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

**11 mL Sulfate MR 400 (R2)**

Chemical: *water* CAS No.: 7732-18-5  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-35400  
 LD50 orl rat : > 90000 mg/kg

## 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.

**65 mg Sulfate MR 400 (R1)**

Chemical: *barium chloride* CAS No.: 10361-37-2  
 LC50 leuciscus idus/96h : 870 mg/L  
 EC50 daphnia/48h : 21.9 mg/L  
 Water hazard class (DE): 1 WGK No.: 0025  
 Storage class (VCI): 6.1 B

Chemical: *hexadecyl-trimethylammonium bromide* CAS No.: 57-09-0  
 Water hazard class (DE): 3  
 Storage class (VCI): 12-13

Chemical: *ethylendinitrilo tetraacetic acid, di Na-salt (EDTA-Na)* CAS No.: 6381-92-6  
 PNEC (fresh water) : 2.2 mg/L  
 PNEC = Predicted No Effect Concentration  
 LC50 fish/96h : [4d] 41-1592 mg/L  
 EC50 daphnia/48h : 140 mg/L  
 IC50 scenedesmus quadricauda/72h : [72h] 2.77-1000 mg/L  
 EC10 pseudomonas putita/16h : [EC10, 30h] 500 mg/L  
 Water hazard class (DE): 2  
 Dispersion coefficient (o/w) : -4,3  
 Storage class (VCI): 12-13



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11 mL Sulfate MR 400 (R2)  
Chemical: water

CAS No.: 7732-18-5

## 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

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

## 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: No dangerous goods according to the transport regulations

### 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 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

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

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

not necessary for these small amounts



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## SECTION 16: Other information

### 16.1 Changes compared to the last version

in preparation

### 16.2 List of H and P phrases

#### 16.2.1 List of relevant H phrases

H302	Harmful if swallowed.
H332	Harmful if inhaled.
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

### 16.3 Recommended restriction on use

Only for professional user.

An individual package of this product or test kit has a moderate hazardous potential.

### 16.4 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

SUVA .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)

Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progress (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)

#### 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

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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### 16.6 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



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CSSL:	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:	lethal concentration 50%
LD50:	lethal dose 50%
leuciscus idus:	fish, 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:	fish, 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:	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.:	Registration 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



# Safety Data Sheet

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

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## 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.



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