

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 985087
 Product name NANOCOLOR Sulfate 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.
 20 x 5 mL Sulfate 1000 (R0)
 1 x 2 g Sulfate 1000 (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
 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

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

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



GHS06 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H301	Acute Tox. 3 oral
H332	Acute Tox. 4 inh.

2.1 Classification of the substance or mixture

5 mL Sulfate 1000 (R0)

Signal word Do not need labelling as hazardous
 -

No hazard class

2 g Sulfate 1000 (R2)

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GHS06 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H301	Acute Tox. 3 oral
H332	Acute Tox. 4 inh.

2.2 Label elements

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).

5 mL Sulfate 1000 (R0)

Do not need labelling as hazardous
Signal word: -

2 g Sulfate 1000 (R2)



GHS06 GHS07

Signal word: DANGER

H301
Toxic if swallowed.

P280sh, P301+310, P405
Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Store locked up.

2.3 Other hazards

Possible hazards from physicochemical properties

Information pertaining to particular risks to human and possible symptoms

Cause severe after oral intake, impairments of health or can lead to death even when only ingested in small quantities. Cause after impairments of health when ingested in small quantities. -

Information pertaining to particular risks to the environment

Avoid contact of substance/mixture to environment.

PBT: not applicable

vPvB: not applicable

Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

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Chemical:	<i>hydrochloric acid</i>	CAS No.:	7647-01-0
Classification:	H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh.		
Formula:	HCl•H ₂ 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:	0,1 - <1 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

2 g Sulfate 1000 (R2)

Chemical:	<i>barium chloride</i>	CAS No.:	10361-37-2
Classification:	H301, Acute Tox. 3 oral, H332, Acute Tox. 4 inh.		
Formula:	BaCl ₂		
Pseudonym:	barium dichloride		
TSCA Inventory:	listed		
REACH Reg. No.:	01-2119502547-42-xxxx		
EC No.:	233-788-1	Indice No.:	056-004-00-8
RTECS:	CQ8751000	MFCD:	00003445
KE No.:	KE-02037		
Concentration:	83 - <100 %	Correlation factor:	x 0.66 (= %Ba)
The classification refers to weight percent of the metal (according to CLP Regulation 2008/1272/EC Annex VI, 1.1.3.2 Note 1)			
acc. CLP (GHS):	H301, Acute Tox. 3 oral, H332, Acute Tox. 4 inh.		

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 16.1

SECTION 4: First aid measures

4.1 Description of first aid measures

Place insured person out of danger zone to fresh air immediately. Ensure quiet, warmth, and provide resuscitation if necessary. If necessary contact medical advice. Remove contaminated clothing. Show product package, packing insert and this material safety data sheet to the doctor.

4.1.1 After SKIN Contact

Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).

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. ---

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

TOXIFICATION: Treat symptomatically. Secure the breathing, heart and circulatory function. Remove the substance quickly from the body. Mechanically induce vomiting or ensure the patient eats medicinal charcoal compressed tablets or drinks aluminium oxide drug suspensions. In order to ensure rapid passage through the colon (administer 2 tablespoons of dissolved Glauber's salt). Alleviation of pain, if necessary sedation. Shock treatment. Administer a prophylaxis to counter pulmonary oedema. ---

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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

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). 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

not necessary

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 ---

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. Products containing also toxic substances should be kept locked up.

Storage class (VCI):

8B

Water hazard class (DE):

1

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

5 mL Sulfate 1000 (R0)

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

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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

2 g Sulfate 1000 (R2)

Chemical: *barium chloride*

CAS No.: 10361-37-2

EU value: 0.5_{Ba} e mg/m³TRGS 900 (DE): 0.5_{Ba} E mg/m³
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/m³NIOSH: TWA 0.5_{Ba} 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: TWA 0.5_{Ba} mg/m³

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 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 protection

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

8.2.4 Skin protection

Recommended to avoid contamination with these hazards.

8.2.5 Personal hygiene

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

5 mL Sulfate 1000 (R0)

Appearance: liquid

Colour: colourless

Odor: odorless

pH:

1-2

Solubility in water:

0-100 %

2 g Sulfate 1000 (R2)

Appearance: powder (solid)

Colour: colourless

Odor: odorless

pH:

5-8

Solubility in water:

0-25 %

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

no further data available.

10.2 Chemical stability

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No known instability.

10.3 Possibility of hazardous reactions

No further data available.

10.4 Conditions to avoid

Not necessary. Observe labeled storage temperature. ---

10.5 Incompatible materials

Avoid contact with strong acids or alkalines.

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.

5 mL Sulfate 1000 (R0)

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 _{orl rat} :	900 mg/kg		
LC50 _{drmm rbt} :	>5010 mg/kg		

2 g Sulfate 1000 (R2)

Chemical:	<i>barium chloride</i>	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 $\geq 1,0\%/\geq 1,0\%$		
Korea Exist.Chem.Inventory:	KE-02037		
LD50 _{orl rat} :	118 mg/kg		
LC _{Loworl hmh} :	11.4 mg/kg		

Acute Effects: Cause severe after oral intake, impairments of health or can lead to death even when only ingested in small quantities. Acute Effects: Cause after skin contact, impairments of health when ingested in small quantities.

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

5 mL Sulfate 1000 (R0)

Chemical:	<i>hydrochloric acid</i>	CAS No.:	7647-01-0
PNEC _(fresh water) :	36 µg/L		
PNEC = Predicted No Effected 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		

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2 g Sulfate 1000 (R2)

Chemical: *barium chloride*
 Avoid contact of substance/mixture to environment.
 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

CAS No.: 10361-37-2

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

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

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

Classification code: M11 Tunnel restriction code: E
 Limited Quantity: acc. ADR 3.3.1/251: see LQ in Alternative declaration for transportation

Air transport

PAX: 960 max. weight PAX: 10 KG
 CAO: 960 max. weight CAO: 10 KG

Maritime transport

EmS: F-A, S-P Storage category: A

Or use **Alternative declaration for transportation:**

14.1 UN number: 2811 14.2 UN proper shipping name: Toxic solid, organic, n.o.s. (barium chloride mixture)

14.3 Class: 6.1 14.4 Packing group: II

Road transport

Classification code: T2 Tunnel restriction code: E
 Limited Quantity: 500 g
 Excepted Quantity: E 4

Air transport

PAX: 669 max. weight PAX: 25 Kg
 CAO: 676 max. weight CAO: 100 Kg

Maritime transport

EmS: F-A, S-A Storage category: B

14.5 Environmental hazards

none, contains only small quantities of hazardous 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

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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
 TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated October 2011
 MN Leaflet/User manual, also see www.mn-net.com
 Look for your country-specific regulations.

15.2 Chemical safety assessment

not necessary for these small amounts ---

SECTION 16: Other information

16.1 List of H and P phrases

16.1.1 List of relevant H phrases

H301 Toxic if swallowed.
 H332 Harmful if inhaled.

16.1.2 List of relevant P phrases

P261sh Avoid breathing dust/vapours.
 P280sh Wear protective gloves/eye protection.
 P301+310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 P405 Store locked up.

16.2 Training advice

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.

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 JArbSchG)!
 Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)!
 An individual package of this product or test kit has a moderate hazardous potential.

16.4 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
 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