

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 985050

NANOCOLOR Organic acids 3000

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Printing date: 14.01.2026

Date of issue: 28.02.2025

Version: 2.2.2.22

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

1.1 Product identifier

REF 985050
Product name NANOCOLOR Organic acids 3000

REACH Registration number(s): see SECTION 3.1/3.2 or
A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

1 x 22 mL organic Acids 3000 (R4) UFI: 4KJU-33S0-120K-6USW
1 x 45 mL organic Acids 3000 (R5) UFI: FG6U-T3QS-H20R-UTMK
20 x 0.5 mL organic Acids 3000 (R0) UFI: 0K6U-A3E5-U208-H56N
1 x 11 mL organic Acids 3000 (R2) UFI: CJQU-F3T0-T209-JNKN
1 x 1.5 g organic Acids 3000 (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
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 GHS09

Signal word DANGER

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1
H302	Acute Tox. 4 oral
H312	Acute Tox. 4 derm.
H314	Skin Corr. 1 B
H317	Skin Sens. 1
H351	Carc. 2
H373	STOT RE 2
H400	Aquatic Acute 1

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

0.5 mL organic Acids 3000 (R0)



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GHS07



GHS08

Signal word

WARNING

Hazard identification

Hazard classes/categories

H302
H373

Acute Tox. 4 oral
STOT RE 2

22 mL organic Acids 3000 (R4)



GHS05

Signal word

DANGER

Hazard identification

Hazard classes/categories

H314

Skin Corr. 1 B

1.5 g organic Acids 3000 (R3)



GHS05



GHS07



GHS08



GHS09

Signal word

DANGER

Hazard identification

Hazard classes/categories

H290
H302
H312
H315
H317
H319
H351
H373
H400

Met. Corr. 1
Acute Tox. 4 oral
Acute Tox. 4 derm.
Skin Irrit. 2
Skin Sens. 1
Eye Irrit. 2
Carc. 2
STOT RE 2
Aquatic Acute 1

11 mL organic Acids 3000 (R2)



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H315
H319

Skin Irrit. 2
Eye Irrit. 2

45 mL organic Acids 3000 (R5)

Do not need labelling as hazardous

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Signal word -

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

0.5 mL organic Acids 3000 (R0)



GHS07



GHS08

Signal word: WARNING

22 mL organic Acids 3000 (R4)



GHS05

Signal word: DANGER

H314

Causes severe skin burns and eye damage.

P260sh, P264, P280sh, P303+361+353, P305+351+338, P310, P405, P501

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. Store locked up. Dispose of contents/container to regulated waste treatment.

1.5 g organic Acids 3000 (R3)



GHS05



GHS08



GHS09

Signal word: DANGER

H317, H351

May cause an allergic skin reaction. Suspected of causing cancer.

P201, P202, P261sh, P280sh, P302+352, P308+313, P333+313, P362+364, P405, P501

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/vapours. Wear protective gloves/eye protection. IF ON SKIN: Wash with plenty of water. IF exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Store locked up. Dispose of contents/container to regulated waste treatment.

11 mL organic Acids 3000 (R2)



GHS07

Signal word: WARNING

45 mL organic Acids 3000 (R5)

Do not need labelling as hazardous

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Signal word: -

Label elements of the complete product



GHS05



GHS08



GHS09

Signal word: DANGER

H314, H317, H351

Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of causing 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.

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. H290 "May be corrosive to metals." has only relevance for higher concentrations and larger amounts. The labelling GHS05 would be creating an "OVERLABELLING" (see GHS Directive 1272/2008/EC Annex I, chapter 1.5.2.1.3., until 125 mL no labelling necessary).

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. Suspected of causing cancer.

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

0.5 mL organic Acids 3000 (R0)

Substance name: *ethylene glycol*
CAS No.: 107-21-1

Substance rating: H302, Acute Tox. 4 oral, H373, STOT RE 2

Formula: $C_2H_6O_2$

Pseudonym (de): Glycol

REACH Reg. No.: 01-2119456816-28-XXXX

EC No.: 203-473-3

Indice No.: 603-027-00-1

Concentration: 80 - <100 %

acc. CLP (GHS): H302, Acute Tox. 4 oral, H373, STOT RE 2

22 mL organic Acids 3000 (R4)

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Substance name: *sodium hydroxide solution*
CAS No.: 1310-73-2

Substance rating: H314, Skin Corr. 1 B
Formula: $\text{NaOH} \cdot \text{H}_2\text{O}$
Pseudonym (de): Natronlauge
REACH Reg. No.: 01-2119457892-27-xxxx
EC No.: 215-185-5
Concentration: 5 - <10 %
acc. CLP (GHS): H314, Skin Corr. 1 B

Indice No.: 011-002-00-6

1.5 g organic Acids 3000 (R3)

Substance name: *hydroxylammonium chloride*
CAS No.: 5470-11-1

Substance rating: H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H351, Carc. 2, H373, STOT RE 2, H400, Aquatic Acute 1
Formula: $\text{NH}_2\text{OH} \cdot \text{HCl} / \text{H}_4\text{CINO}$
Pseudonym (de): Hydroxylaminhydrochlorid
REACH Reg. No.: as intermediate
EC No.: 226-798-2
Concentration: 80 - <100 %
acc. CLP (GHS): H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H351, Carc. 2, H373, STOT RE 2, H400, Aquatic Acute 1

Indice No.: 612-123-00-2

11 mL organic Acids 3000 (R2)

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
Specific concentration limit: Eye Irrit. 2; H319: 5 % ≤ C < 15 % - Skin Irrit. 2; H315: 5 % ≤ C < 15 % - Skin Corr 1A; H314 c ≥ 15%
Concentration: 5 - <15 %
acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

Indice No.: 016-020-00-8

45 mL organic Acids 3000 (R5)

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

Substance rating: H315, Skin Irrit. 2, H319, Eye Irrit. 2
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
Concentration: 1 - <5 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Indice No.: 016-020-00-8

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.

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- 4.1.1 After SKIN Contact**
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: 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: Suspected of causing cancer.
- 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 to 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**
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**

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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. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 4.1A

Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage. 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

0.5 mL organic Acids 3000 (R0)

Chemical: ethylene glycol

CAS No.: 107-21-1

DNEL: [inh] 35 mg/m³

DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): 10 ppm / 26 mg/m³

E/e respirable

SUVA(CH) MAK value: 10 ppm / 26 mg/m³

NIOSH: [Ceiling] 50 ppm

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: none

1.5 g organic Acids 3000 (R3)

Chemical: hydroxylammonium chloride

CAS No.: 5470-11-1

TRGS 900 (DE): 1.5 mg/m³

E/e respirable

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

11 mL organic Acids 3000 (R2)

Chemical: sulfuric acid

CAS No.: 7664-93-9

DNEL: [inh] 50 µg/m³

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/m³

TRGS 900 (DE): 0.1 E mg/m³

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/m³

NIOSH: NTP Report on Carcinogens (RoC) List Yes (Known to be a human carcinogen); [TWA] 1 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] 1 mg/m³

22 mL organic Acids 3000 (R4)

Chemical: sodium hydroxide solution

CAS No.: 1310-73-2

DNEL: [inh] 1 mg/m³

DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): 2 mg/m³



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E/e respirable
Short-term exposure factor: (=1=, Y)
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 2 e mg/m³
NIOSH: 2 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] 2 mg/m³

45 mL organic Acids 3000 (R5)

Chemical: *sulfuric acid*

CAS No.: 7664-93-9

DNEL: 50 µg/m³
DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 2.5 µg/L
PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 0.1 E mg/m³
E/e respirable

Short-term exposure factor: 1 (I)
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/m³
NIOSH: NTP Report on Carcinogens (RoC) List Yes (Known to be a human carcinogen); TWA 1 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] 1 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 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.

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

0.5 mL organic Acids 3000 (R0)

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	fusty, mouldy
d) Melting point:	-13 °C
e) Boiling point:	117 (39 hPa) °C
f) Flammability:	no data available
g) Explosive limits (lower / upper):	1,8 ... 12,8 Vol%
h) Flash point:	116 °C
i) Flashing temperature:	410 °C
j) Decomposition temperature:	no data available
k) pH value:	6-8
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (K _{ow}):	no data available

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- | | |
|-------------------------------------|-------------------|
| o) Vapour pressure (20°C): | no data available |
| p) Specific gravity: | 1,11 g/cm³ |
| q) Relative vapour density (air=1): | no data available |
| r) Particle size: | no data available |

1.5 g organic Acids 3000 (R3)

- | | |
|---|-------------------|
| a) State of aggregation: | solid |
| b) Colour: | colourless |
| c) Odor: | odorless |
| d) Melting point: | 159 °C |
| 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: | 4-5 |
| l) Kinematic viscosity: | no data available |
| m) Solubility in water: | 0-45 % |
| n) Dispersion coefficient (K _{ow}): | no data available |
| o) Vapour pressure (20°C): | no data available |
| p) Specific gravity: | no data available |
| q) Relative vapour density (air=1): | no data available |
| r) Particle size: | no data available |

11 mL organic Acids 3000 (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: | 0-1 |
| l) Kinematic viscosity: | no data available |
| m) Solubility in water: | 0-100 % |
| n) Dispersion coefficient (K _{ow}): | no data available |
| o) Vapour pressure (20°C): | no data available |
| p) Specific gravity: | 1,07 g/cm³ |
| q) Relative vapour density (air=1): | no data available |
| r) Particle size: | no data available |

22 mL organic Acids 3000 (R4)

- | | |
|---|-------------------|
| 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: | 13-14 |
| l) Kinematic viscosity: | no data available |
| m) Solubility in water: | 0-100 % |
| n) Dispersion coefficient (K _{ow}): | no data available |
| o) Vapour pressure (20°C): | no data available |
| p) Specific gravity: | 1,09 g/cm³ |
| q) Relative vapour density (air=1): | no data available |
| r) Particle size: | no data available |



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45 mL organic Acids 3000 (R5)

a) State of aggregation:	liquid
b) Colour:	slightly yellow
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:	0-1
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (K _{ow}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1,03 g/cm ³
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.

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.

0.5 mL organic Acids 3000 (R0)

Chemical: ethylene glycol
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-13169
LD50 orl rat : 4700 mg/kg
LC_{Low} orl hmn : 786 mg/kg

CAS No.: 107-21-1

California Proposition 65 List: listed, developmental



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Acute Effects: Cause after oral intake, impairments of health when ingested in small quantities.

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

1.5 g organic Acids 3000 (R3)

Chemical: *hydroxylammonium chloride* CAS No.: 5470-11-1

TSCA Inventory: listed California Proposition 65 List: not listed

Exposure Routes: -

Symptoms: -

Australia NICNAS: not listed Canada CEPA 1999: DSL Yes

Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance

Japan ISHL: not listed

South Korea TCCA: not listed

Korea Exist.Chem.Inventory: KE-20602, >1% Toxic 97-1-411

LD50 orl rat : 141 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 sensitization by skin contact, also in repeated contact of small amounts. May cause damage to organs through prolonged or repeated exposure.

Carcinogenic Effects: Suspected of causing cancer.

TRGS 907 (DE): Sh

11 mL organic Acids 3000 (R2)

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 PDSCL: Deleterious Substance

Japan ISHL: listed ≥1,0%/≥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

TRGS 905 (DE): Kat 4

22 mL organic Acids 3000 (R4)

Chemical: *sodium hydroxide solution* CAS No.: 1310-73-2

TSCA Inventory: listed California Proposition 65 List: not listed

Exposure Routes: inhalation, ingestion, skin and/or eye contact

Target Organs: Eyes, skin, respiratory system

Symptoms: irritation eyes, skin, mucous membrane; pneumonitis; eye, skin burns; temporary loss of hair

Australia NICNAS: not listed Canada CEPA 1999: DSL Yes

Japan CSCL/PRTR: not listed, Japan PDSCL: not listed

Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)

South Korea TCCA: not listed

Korea Exist.Chem.Inventory: KE-31487

LD50 orl rat : [40%] 1250 / [<25%] >2000 mg/kg

LD50 orl mus : 40 mg/kg

45 mL organic Acids 3000 (R5)

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

Australia NICNAS: not listed Canada CEPA 1999: DSL Yes

Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance

Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)

South Korea TCCA: Accident Precaution Chemical Yes

Korea Exist.Chem.Inventory: KE-32570

LD50 orl rat : 2140 mg/kg



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LC50 ihl mus : 0,85 mg/L/4H

TRGS 905 (DE): R F C

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.

0.5 mL organic Acids 3000 (R0)

Substance name: *ethylene glycol*

CAS-Nr.: 107-21-1

LC50 pimephales promelas/96h : [NOEC, 7d] 39.14 g/L

LC50 leuciscus idus/96h : [NOEC, 48h] >10 g/L

LC50 fish/96h : 18.5 g/L

EC50 daphnia/48h : 41 / [24h] 74 mg/L

Water hazard class (DE): 1 WGK No.: 0105

Storage class (VCI): 12-13

1.5 g organic Acids 3000 (R3)

Substance name: *hydroxylammonium chloride*

CAS-Nr.: 5470-11-1

Very toxic to aquatic life. Do not release into the environment.

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

LC50 leuciscus idus/96h : 1-10 mg/L

Water hazard class (DE): 3

Storage class (VCI): 4.1 A

11 mL organic Acids 3000 (R2)

Substance name: *sulfuric acid*

CAS-Nr.: 7664-93-9

PNEC (fresh water) : 2.5 µg/L

PNEC = Predicted No Effected 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 putita/16h : [72h] 100 mg/L

Water hazard class (DE): 1 WGK No.: 0182

Storage class (VCI): 8 B

22 mL organic Acids 3000 (R4)

Substance name: *sodium hydroxide solution*

CAS-Nr.: 1310-73-2

Do not release into the environment.

LC50 leuciscus idus/96h : 35-189 mg/L

LC50 fish/96h : 45.4 mg/L

EC50 daphnia/48h : >100 mg/L

Water hazard class (DE): 1 WGK No.: 142

Storage class (VCI): 8 B

45 mL organic Acids 3000 (R5)

Substance name: *sulfuric acid*

CAS-Nr.: 7664-93-9

PNEC (fresh water) : 2.5 µg/L

PNEC = Predicted No Effected 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 putita/16h : [72h] 100 mg/L

Water hazard class (DE): 1 WGK No.: 0182

Storage class (VCI): 8 B

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12.2 Persistence and degradability

12.3 Bioaccumulative potential

0.5 mL organic Acids 3000 (R0)

Substance name:

ethylene glycol

CAS-Nr.: 107-21-1

Dispersion coefficient (K_{ow}):

-1,36

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.

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. 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:**

UN No.: (see below) class 8 II, **Excepted Quantities** ($\leq 30 \text{ mL} / \sum \leq 500 \text{ mL}$) = ADR/ IATA E2

or

14.1 UN number: 3266

14.2 UN proper shipping name: Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide solution)

14.3 Class: 8

14.4 Packing group: II

Road transport ADR

Classification code: C5

Limited Quantity: 1 L

Excepted Quantity: E 2

Tunnel restriction code:

E

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:

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14.5 Environmental hazards

none, contains only small quantities of hazardous 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
 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
 If necessary, observe other country-specific regulations.

15.2 Chemical safety assessment

no data available

SECTION 16: Other information

16.1 Changes compared to the last version

Between versions 2.2.2.22 and 2.2.2.2 following changes were applied: - 20 substance data corrected

16.2 List of H and P phrases

16.2.1 List of relevant H phrases

H	Between versions 2.2.2.22 and 2.2.2.2 following changes were applied: - 20 substance data corrected
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

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.

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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 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/EC to technical and scientific progressText (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)

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



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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
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.:	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

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.