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

1.1 Product identifier

| REF                | VISOCOLOR ECO Nitrite |
---|---|
Product identifier | 931044 |
Product name       | VISOCOLOR ECO Nitrite |

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 30 mL NO 2 -1
- 1 x 5 g NO 2 -2

UFI: J6EU-93JH-E20C-FF2M

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

Uses advised against

not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:
MACHEREY-NAGEL GmbH & Co. KG
Valenciener 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

Signal word     DANGER

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

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

5 g NO 2 -2

- Do not need labelling as hazardous
- No hazard class

30 mL NO 2 -1
Safety Data Sheet
according to Regulations REACh 1907/2006/EC

REF: 931044  VISOCOLOR ECO Nitrite
Printing date: 27.09.2023  Date of issue: 06.07.2023
Version: 2.2.3.4

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). 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).

GHS05
Signal word: DANGER

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

List of H phrases: see section 16.2

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.

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
5 g NO \textsuperscript{2} -2
Substance name: citric acid  
CAS No.: 77-92-9

Substance rating:  
H319, Eye Irrit. 2, H335, resp. irrit. STOT SE 3

Formula: C₆H₈O₇

Pseudonym (de): Zitronensäure

REACH Reg. No.: 01-2119457026-42-xxxx
EC No.: 201-069-1
Concentration: 1 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: N-(1-naphthyl)-ethylenediamine dihydrochloride
CAS No.: 1465-25-4

Substance rating:  
H315, Skin Irrit. 2, H319, Eye Irrit. 2

Formula: C₁₂H₁₆Cl₂N₂

EC No.: 215-981-2
Concentration: 1 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: sulfanilamide
CAS No.: 63-74-1

Substance rating:  
No criteria for classification or naming of chemical not required.

Formula: C₆H₈N₂O₂S

Pseudonym (de): 4-Aminobenzolsulfonamid

REACH Reg. No.: 01-2119457026-42-xxxx
EC No.: 200-563-4
Concentration: 1 - <10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: o-phosphoric acid
CAS No.: 7664-38-2

Substance rating:  

Formula: H₃PO₄•H₂O

Pseudonym (de): Orthophosphorsäure, E338

REACH Reg. No.: 01-2119457026-42-xxxx
EC No.: 231-633-2
Concentration: 1 - <10 %
acc. CLP (GHS): H290, Met. Corr. 1
Indice No.: 015-011-00-6

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.

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. ---
Safety Data Sheet
according to Regulations REACh 1907/2006/EC

REF: 931044
Printing date: 27.09.2023
Date of issue: 06.07.2023
Version: 2.2.3.4

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
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

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.

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 (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.

7.3 Specific end use(s)
Product for analytical use.
SECTION 8: Exposure controls /personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Chemical</th>
<th>DNEL</th>
<th>PNEC</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>citric acid</td>
<td>2.92 mg/m³</td>
<td>440 mg/L</td>
<td>77-92-9</td>
</tr>
</tbody>
</table>

Chemical: N-(1-naphthyl)-ethylenediamine dihydrochloride  CAS No.: 1465-25-4

Chemical: sulfanilamide  CAS No.: 63-74-1

Chemical: o-phosphoric acid  CAS No.: 7664-38-2

DNEL (TWA) = Derived No-Effect Level (for workers)

EU value: [TWA] 1 /[STEL] 2 mg/m³

TRGS 900 (DE): 2 E mg/m³

Short-term exposure factor: 2 (I) Y

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

Chemical: N-(1-naphthyl)-ethylenediamine dihydrochloride  CAS No.: 1465-25-4

30 mL NO > -1

Chemical: sulfanilamide  CAS No.: 63-74-1

Chemical: o-phosphoric acid  CAS No.: 7664-38-2

DNEL: 2.92 mg/m³

DNEL = Derived No-Effect Level (for workers)

EU value: [TWA] 1 /[STEL] 2 mg/m³

TRGS 900 (DE): [Sh] 1 /[15min] 2 mg/m³

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: 1 mg/m³

NIOSH: MAK = 1 ST 3 mg/m³

NIOSH STEL: 3 mg/m³

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.

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 g NO &gt; -2</td>
<td>powder (solid)</td>
</tr>
<tr>
<td>a) State of aggregation:</td>
<td>powder (solid)</td>
</tr>
<tr>
<td>b) Colour:</td>
<td>colourless</td>
</tr>
<tr>
<td>c) Odor:</td>
<td>odorless</td>
</tr>
<tr>
<td>d) Melting point:</td>
<td>no data available</td>
</tr>
<tr>
<td>e) Boiling point:</td>
<td>no data available</td>
</tr>
<tr>
<td>f) Flammability:</td>
<td>no data available</td>
</tr>
</tbody>
</table>

Visocolor ECO Nitrite

CAS No.: 1465-25-4

Visocolor ECO Nitrite

CAS No.: 1465-25-4

Visocolor ECO Nitrite

CAS No.: 1465-25-4
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

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.

5 g NO₂ -2

Chemical: citric acid
CAS No.: 77-92-9
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-20831

LD₅₀ orl rat: > 3000 mg/kg
LC₅₀ inh rat: 5,800 mg/L
LD₅₀ orl mus: 5400 mg/kg
LD₅₀ scu rat: 5500 mg/kg

Chemical: N-(1-naphthyl)-ethylendiamine dihydrochloride
CAS No.: 1465-25-4
TSCA Inventory: listed
Korea Exist.Chem.Inventory: not listed

30 mL NO₂ -1

Chemical: sulfanilamide
CAS No.: 63-74-1
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-01188

LD₅₀ orl rat: 3900 mg/kg

Chemical: o-phosphoric acid
CAS No.: 7664-38-2
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
Symptoms: irritation eyes, skin, upper respiratory system; eye, skin, burns; dermatitis

Australia NICNAS: not listed
Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: 
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-27427

LD₅₀ orl rat: 1530 mg/kg
LC₅₀ inh rat: 1,689 mg/L

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.

5 g NO₂ -2

Chemical: citric acid
CAS No.: 77-92-9
PNEC (fresh water): 440 mg/L
PNEC = Predicted No Effected Concentration
LC₅₀ leuciscus idus/96h: 440-760 mg/L
EC₅₀ daphnia/48h: 1535 mg/L
IC₅₀ scenedesmus quadricauda/72h: 7d: 425-640 mg/L
EC₅₀ pseudomonas putita/16h: >10 g/L
Water hazard class (DE): 1
Dispersion coefficient (a/w): -1.72
Storage class (VCI): 13
Safety Data Sheet
according to Regulations REACh 1907/2006/EC

REF: 931044  VISOCOLOR ECO Nitrite  Page: 8/11
Printing date: 27.09.2023  Date of issue: 06.07.2023  Version: 2.2.3.4

Chemical: N-(1-naphthyl)-ethylenediamine dihydrochloride  CAS No.: 1465-25-4
Water hazard class (DE): 3
Storage class (VCI): 13

30 mL NO₂ -1
Chemical: sulfanilamide  CAS No.: 63-74-1
Water hazard class (DE): 1  WGK No.: n.n.
Storage class (VCI): 13

Chemical: o-phosphoric acid  CAS No.: 7664-38-2
LC50 fish/96h: 3-3.5 mg/L
Water hazard class (DE): 1  WGK No.: 0392
Storage class (VCI): 8 B

12.2 Persistence and degradability
not necessary

12.3 Bioaccumulative potential
not necessary

12.4 Mobility in soil
not necessary

12.5 Results of PBT and vPvB assessment
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
Normally it is possible to empty small amounts (diluted!) into drains.

SECTION 14: Transport information

14.1 - 14.4: No dangerous goods according the transport regulations

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
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
TRGS 500, Protective measures, Mai 2008
TRGS 510, Storage of hazardous substances in portable containers from March 2013, status: Oct 2015

Software: M2 V 6.1.4.2
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 2.2.3.4 and 2.2.2.2 following changes were applied: - 1 composition data corrected - 2 substance data corrected

16.2 List of H and P phrases

16.2.1 List of relevant H phrases

H290 May be corrosive to metals.

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/UE, 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 Text (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 879/2020/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 1272/2008/EC

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.

MACHEREY-NAGEL GmbH & Co. KG makes NO REPRESENTATIONS or WARRANTIES, either expressed or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly MACHEREY-NAGEL GmbH & Co. KG will not be responsible for damages resulting from use of or reliance upon this information. See terms and conditions at the end of our price lists for additional information.
Safety Data Sheet
according to Regulations REACh 1907/2006/EC

REF: 931044
Visocolor ECO Nitrite
Printing date: 27.09.2023
Date of issue: 06.07.2023
Version: 2.2.3.4
Software: M2 V 6.1.4.2

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
iht: 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: fisch, ide, orfe
MAK: maximum workplace concentration
Met: Metall
mus: mouse
Mutagen
NIOSH: National Institute for Occupational Safety and Health (US)
NORD: 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
qual: 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 cutaneous
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
Safety Data Sheet
according to Regulations REACh 1907/2006/EC

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.