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

1.1 Product identifier

REF: 931029
Product name: VISOCOLOR ECO Total Hardness

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 8 mL GH-1
2 x 30 mL GH-2

UFI: XPDU-83EC-K20D-GDK7

1.2 Relevant identified uses of the substance or the 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 (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

GHS02 GHS07

Signal word WARNING

Hazard identification Hazard classes/categories
H226 Flam. Liq. 3
H315 Skin Irrit. 2
H319 Eye Irrit. 2

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

8 mL GH-1

GHS02 GHS07
Safety Data Sheet
according to Regulations REACh 1907/2006/EC

REF: 931029
Printing date: 04.04.2023
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VISOCOLOR ECO Total Hardness
Date of issue: 30.09.2022
Version: 2.2.2.2

Signal word
WARNING

Hazard identification | Hazard classes/categories
----------------------|------------------------
H226                 | Flam. Liq. 3
H315                 | Skin Irrit. 2
H319                 | Eye Irrit. 2

30 mL GH-2
Do not need labelling as hazardous

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). Harmful chemicals/mixtures with signal word: WARNING and highly flammable chemicals/mixtures must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).

8 mL GH-1

Signal word: WARNING

30 mL GH-2
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
In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties.
Information pertaining to particular risks to human and possible symptoms
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

8 mL GH-1
Safety Data Sheet
according to Regulations REACh 1907/2006/EC

REF: 931029
Printing date: 04.04.2023
Date of issue: 30.09.2022
Version: 2.2.2.2

Substance name: triethanolamine
CAS No.: 102-71-6
Substance rating: H315, Skin Irrit. 2, H319, Eye Irrit. 2
Formula: C₆H₁₅NO₃
Pseudonym (de): 2,2',2''-Nitrilotriethanol, TEA, Tris(2-hydroxyethyl)amin
REACH Reg. No.: 01-2119486482-31-xxxx
Dual-use: The application of this chemical is exempt from the regulation 2017/2268/EU (see IC350 remark 4).
EC No.: 203-049-8
Concentration: 20 - <45 % acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

Substance name: ethanol
CAS No.: 64-17-5
(denatured with 1% 2-butanone / 1% 2-propanol)
Substance rating: H225, Flam. Liq. 2
Formula: C₂H₆O; C₂H₅OH
Pseudonym (de): Äthylalkohol, vergällter Spiritus
REACH Reg. No.: 01-2119457610-43-xxxx
EC No.: 200-578-6
Indice No.: 603-002-00-5
Concentration: 20 - <35 % acc. CLP (GHS): H226, Flam. Liq. 3

Substance name: indicator dye(s)
CAS No.: -
Substance rating: No criteria for classification or naming of chemical not required.
Concentration: 0,1 - <1 % acc. CLP (GHS): The criteria for classification are not fulfilled.

30 mL GH-2
Substance name: ethylenedinitrilo tetraacetic acid, di Na-salt (EDTA-Na)
CAS No.: 6381-92-6
Substance rating: H332, Acute Tox. 4 inh., H373, STOT SE 3
Formula: C₁₀H₁₄N₂Na₂O₈•2H₂O
Pseudonym (de): Titriplex® III
EC No.: 205-358-3
Concentration: 0,1 - <1 % acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: ammonia solution
CAS No.: 1336-21-6
Substance rating: H314, Skin Corr. 1B, H335, STOT SE 3, H400, Aquatic Acute 1
Formula: NH₃•H₂O
Pseudonym (de): Salmiakgeist
REACH Reg. No.: 01-2119488876-14-xxxx, 01-2119982985-14-XXXX
EC No.: 215-647-6
Indice No.: 007-001-01-2
Concentration: 0,1 - <1 % acc. CLP (GHS): The criteria for classification are not fulfilled.

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. ---

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

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

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

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

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

8 mL GH-1
Chemical: triethanolamine
CAS No.: 102-71-6
DNEL = Derived No-Effect Level (for workers)
[derm] 6.3; [inh] 5 mg/m³

PNEC: 0.32 mg/L
PNEC = Predicted No Effect Concentration
TRGS 900 (DE): - DFG: 5 E mg/m³
E/e respirable
Short-term exposure factor: I, (2)
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: [MAK] 5 e STEL 10 e mg/m³
NIOSH: not listed
OSHA: not listed

Chemical: ethanol
CAS No.: 64-17-5
DNEL = Derived No-Effect Level (for workers)
[derm] 343 mg/kg; [inh] 950 mg/m³

PNEC: 0.96 mg/L
PNEC = Predicted No Effect Concentration
TRGS 900 (DE): 200 mL/m³ / 380 mg/m³
E/e respirable
Short-term exposure factor: 4 (II), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 500 ppm / 960 mg/m³
NIOSH: [TWA] 1000 ppm / 1900 mg/m³
OSHA: [TWA] 1000 ppm / 1900 mg/m³

Chemical: indicator dye(s)
CAS No.: -

30 mL GH-2
Chemical: ethylenedinitrilo tetraacetic acid, di Na-salt (EDTA-Na)
CAS No.: 6381-92-6
DNEL = Derived No-Effect Level (for workers)
[inh] 1.5 mg/m³

PNEC: 2.2 mg/L
PNEC = Predicted No Effect Concentration

Chemical: ammonia solution
CAS No.: 1336-21-6
DNEL = Derived No-Effect Level (for workers)
[inh] 14 mg/m³

PNEC: 0.0011 mg/L
PNEC = Predicted No Effect Concentration
EU value: 20 ppm / 14 mg/m³
TRGS 900 (DE): 20 ppm / 14 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: 20 ppm / 14 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

8 mL GH-1

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) State of aggregation</td>
<td>liquid</td>
</tr>
<tr>
<td>b) Colour:</td>
<td>green</td>
</tr>
<tr>
<td>c) Odor:</td>
<td>alcoholic</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>
<tr>
<td>g) Explosive limits (lower / upper):</td>
<td>no data available</td>
</tr>
<tr>
<td>h) Flash point:</td>
<td>27 °C</td>
</tr>
<tr>
<td>i) Flashing temperature:</td>
<td>no data available</td>
</tr>
<tr>
<td>j) Decomposition temperature:</td>
<td>no data available</td>
</tr>
<tr>
<td>k) pH value:</td>
<td>10</td>
</tr>
<tr>
<td>l) Kinematic viscosity:</td>
<td>no data available</td>
</tr>
<tr>
<td>m) Solubility in water:</td>
<td>no data available</td>
</tr>
<tr>
<td>n) Dispersion coefficient (o/w):</td>
<td>no data available</td>
</tr>
<tr>
<td>o) Vapour pressure (20°C):</td>
<td>no data available</td>
</tr>
<tr>
<td>p) Specific gravity:</td>
<td>no data available</td>
</tr>
<tr>
<td>q) Relative vapour density (a/r):</td>
<td>no data available</td>
</tr>
<tr>
<td>r) Particle size:</td>
<td>no data available</td>
</tr>
</tbody>
</table>

30 mL GH-2

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) State of aggregation</td>
<td>liquid</td>
</tr>
<tr>
<td>b) Colour:</td>
<td>colourless</td>
</tr>
<tr>
<td>c) Odor:</td>
<td>aminic</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>
<tr>
<td>g) Explosive limits (lower / upper):</td>
<td>no data available</td>
</tr>
<tr>
<td>h) Flash point:</td>
<td>no data available</td>
</tr>
<tr>
<td>i) Flashing temperature:</td>
<td>no data available</td>
</tr>
<tr>
<td>j) Decomposition temperature:</td>
<td>no data available</td>
</tr>
<tr>
<td>k) pH value:</td>
<td>10.5</td>
</tr>
</tbody>
</table>
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.

8 mL GH-1

Chemical: triethanolamine CAS No.: 102-71-6
TSCA Inventory: listed California Proposition 65 List: not listed
Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: PAC Yes, Japan PDSCL: not listed
Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-25940
LD50 orl rat: > 5000 mg/kg

Chemical: ethanol CAS No.: 64-17-5
TSCA Inventory: listed California Proposition 65 List: not listed
ACGH: 1000 ppm
Exposure Routes: inhalation, ingestion, skin and/or eye contact
Target Organs: Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system
Symptoms: irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;
Liver damage; anemia; reproductive, teratogenic

Australia NICNAS: not listed Canada CEPA 1999: DSL yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: listed ≥0,1%/≥0,1%, Article 57-2 (SDS required)
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-13217
LD50 orl rat : 6200 mg/kg
LC_Low inh gpg : 21,900 mg/L
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.

8 mL GH-1

Chemical: triethanolamine
PNEC (fresh water): 0.32 mg/L
LC50 fish/96h: >1000 mg/L
EC50 daphnia/48h: >1000 mg/L
Water hazard class (DE): 1  WGK No.: 0201
Dispersion coefficient (o/w): 2.3
Storage class (VCI): 12

Chemical: ethanol
PNEC (fresh water): 0.96 mg/L
LC50 daphnia magna/48h: >1000 mg/L
LC50 pimephales promelas/96h: 13400 - 15100 mg/L
LC50 leuciscus idus/96h: [48h] 8140 mg/L
LC50 fish/96h: 13 g/L
EC50 daphnia/48h: 3.4-14.2 g/L
IC50 scenedesmus quadricauda/72h: [72d] 5000 mg/L
EC10 pseudomonas putida/16h: [EC5] 6500 mg/L
Water hazard class (DE): 1  WGK No.: 0096
Dispersion coefficient (o/w): -0.31
Storage class (VCI): 3

Chemical: indicator dye(s)  CAS No.: -
Storage class (VCI): 12-13

30 mL GH-2
Chemical: ethylenedinitrilo tetraacetic acid, di Na-salt (EDTA-Na)  CAS No.: 6381-92-6
PNEC (fresh water): 2.2 mg/L

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 putilia/16h: [EC10, 30h] 500 mg/L
Water hazard class (DE): 2
Dispersion coefficient (o/w): -4.3
Storage class (VCI): 12-13

Chemical: ammonia solution  CAS No.: 1336-21-6
PNEC (fresh water): 0.0011 mg/L

LC50 fish/96h: 0.89 mg/L
EC50 daphnia/48h: 101 mg/L
Water hazard class (DE): 2  WGK No.: 0211
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. 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 ICAO
PAX: 960  max. weight PAX: 10 KG
CAO: 960  max. weight CAO: 10 KG
Maritime transport IMDG
EmS: F-A, S-P  Storage category: A
14.1 UN number: 1993  
14.2 UN proper shipping name: Flammable liquid, n.o.s. (ethanol mixture)  
14.3 Class: 3  
14.4 Packing group: III

Road transport ADR
Classification code: F1  
Limited Quantity: 5 L  
Exceptional Quantities (≤30 mL/∑≤1 L) = ADR/ IATA E1
Air transport ICAO
Limited Quantity: LQ 7  
Exceptional Quantity: E 1  
PAX: 355  
CAO: 366  
EmS: F-E, S-E  
Storage category: A

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
MN leaflet/instructions for use, also at www.mn-net.com
If necessary, observe other country-specific regulations.

15.2 Chemical safety assessment  
not necessary for these small amounts

SECTION 16: Other information

16.1 Changes compared to the last version  
in preparation

16.2 List of H and P phrases

16.2.1 List of relevant H phrases
H226 Flammable liquid and vapour.  
H315 Causes skin irritation  
H319 Causes serious eye irritation.

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

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
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
2017–08 adjustment according the Ordinance on Ethanol Denaturation 2016/1867/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 or reliance upon this information. See terms and conditions at the end of our price lists for additional information.

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
inh: inhaled
IMDG: International Maritime Dangerous Goods Code
intrav: intravenous
ip: intraperitoneal
iSHL: Industrial Safety and Health Law (Jp)
LC50: lethal concentration 50%
LD50: lethal dose 50%
leuciscus idus: fisch, ide, orfe
Safety Data Sheet
according to Regulations REACh 1907/2006/EC

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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
ort: 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
Resp: respiratory
Repr: harmful to reproduction
RIP: REACH Implementations Projects
scu: subcut
SDS: safety data sheet
Sens: sensitisation
STEL: short term exposure limit
STOT: Specific Target Organ Toxicity
SVHC: Substance of Very High Concern
va: 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.