Safety Data Sheet

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

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

1.1 Product identifier

REF 931227
Product name VISOCOLOR ECO Fluoride, refill pack

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.

3 x 30 mL F-1

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

Relevant identified uses
Product for analytical use.
Exposure Scenario Classification according REACh, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0
The exposure scenario is integrated into sections 1-16.
Uses advised against
not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:
MACHEREY-NAGEL GmbH & Co. KG
Valencienner Str. 11, 52355 Düren, GERMANY
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

2.1 Classification of the substance or mixture

30 mL F-1



GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H335	STOT SE 3

2.2 Label elements

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identificator(s) (EU 1272/2008 Annex I - 1.5.1.2).

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).
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).

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MACHEREY-NAGEL ISO 9001 CERTIFIED
Version: M V 4.12.0

30 mL F-1



GHS07

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. ---

Information pertaining to particular risks to human and possible symptoms
Cause after inhalation of vapours/dust, impairments of health when ingested in small quantities. ---

Information pertaining to particular risks to the environment
---

Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

30 mL F-1

Chemical: *zirconium(IV) dichloride oxide* CAS No.: 13520-92-8
Classification: No criteria for classification or naming of chemical not required.
Formula: $ZrOCl_2 \cdot 8\ H_2O$
TSCA Inventory: not listed
EC No.: 231-717-9
RTECS: ZH7250000 MFCD: 00149898
KE No.: not listed
Concentration: < 0.10 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *1,8-dihydroxy-2-(4-sulfophenylazo)naphthalin-3,6-disulfonic acid, trisodium salt* CAS No.: 23647-14-5
Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2
Formula: $C_{16}H_9N_2Na_3O_{11}S_3$
Pseudonym: 4,5-dihydroxy-3-[2-(4-sulfophenyl)diazenyl]-2,7-naphthalenedisulfonic acid, trisodium salt
TSCA Inventory: listed
EC No.: 245-803-9 MFCD: 00003952
Concentration: 0.2 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *hydrochloric acid* CAS No.: 7647-01-0
Classification: H290, Met. Corr. 1, H314, Skin Corr. 1B, H331, Acute Tox. 3 inh.
Formula: $HCl \cdot H_2O$
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: 10 - <25 %
acc. CLP (GHS): H290, Met. Corr. 1, H315, Skin Irrit. 2, H319, Eye Irrit. 2, H335, STOT SE 3

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

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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

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.

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

The original product package of MACHEREY-NAGEL allows a safe storage.

Storage class (VCI):	8B
Water hazard class (DE):	2

7.2.1 Requirements for stock rooms and containers

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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

30 mL F-1

Chemical: *zirconium(IV) dichloride oxide* CAS No.: 13520-92-8
TRGS 900 (DE): 1_{Zr} E mg/m³
E/e respirable
Short-term exposure factor: 1 (I), Sah
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 5 e mg/m³
NIOSH: TWA 5 / ST 10_{Zr} 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 5_{Zr} mg/m³

Chemical: *1,8-dihydroxy-2-(4-sulfophenylazo)naphthalin-3,6-disulfonic acid, tri Na salt* CAS No.: 23647-14-5

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 Effected 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
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

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
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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

30 mL F-1

Appearance: liquid	Colour: red	Odor: penetrative
pH:	0-1	
Specific gravity:	1,07 g/cm³	
Solubility in water:	0-100 %	

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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

No known instability.

10.3 Possibility of hazardous reactions

No further data available.

10.4 Conditions to avoid

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.

30 mL F-1

Chemical: *zirconium(IV) dichloride oxide* CAS No.: 13520-92-8
TSCA Inventory: not listed
Exposure Routes: inhalation, skin and/or eye contact
Target Organs: Skin, respiratory system
Symptoms: Skin, lung granulomas; in animals: irritation skin, mucous membrane; X-ray evidence of retention in lungs
Korea Exist.Chem.Inventory: not listed
$LD50_{orl\ rat}$: 2950 mg/kg

TRGS 907 (DE): Sah

Chemical: *1,8-dihydroxy-2-(4-sulfophenylazo)naphthalin-3,6-disulfonic acid, trisodium salt* CAS No.: 23647-14-5
TSCA Inventory: listed

Chemical: *hydrochloric acid* 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 ≥0,2%/≥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
$LC50_{drm\ rbt}$: >5010 mg/kg
Acute Effects: Cause after inhalation of vapours/dust, impairments of health when ingested in small quantities.

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SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

30 mL F-1

Chemical: *zirconium(IV) dichloride oxide* CAS No.: 13520-92-8
Water hazard class (DE): 2
Storage class (VCI): 8 B

Chemical: *1,8-dihydroxy-2-(4-sulfophenylazo)naphthalin-3,6-disulfonic acid, tri*[illegible] CAS No.: 23647-14-5
Water hazard class (DE): 2

Chemical: *hydrochloric acid* 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

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).

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 Transport in bulk according to Annex II of MARPOL and the IBC Code

not applicable

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

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.

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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

H290	May be corrosive to metals.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

16.1.2 List of relevant P phrases

P261sh	Avoid breathing dust/vapours.
P280sh	Wear protective gloves/eye protection.
P390	Absorb spillage to prevent material damage.
P403+233	Store in a well-ventilated place. Keep container tightly closed.

16.2 Training advice

Regular safety training.

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 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
Regulation 1480/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
Regulation 849/2021/EU, 4th adaptation of CLP regulation to technical and scientific progress
TRGS 900, German engineering rules governing limits in air at work, updated 03/2019
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

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