

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 931218

Printing date: 03.08.2026

VISOCOLOR ECO Chloride, refill pack

Date of issue: 10.09.2025

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Version: 2.2.2.13

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

1.1 Product identifier

REF 931218
Product name VISOCOLOR ECO Chloride, 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.

2 x 20 mL CI-1
1 x 24 mL CI-2

UFI: QYEU-U3SA-520T-DHA6
UFI: X34U-N3DN-X20W-A89S

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:

<<https://www.mn-net.com/SDS>>

SECTION 2: Hazard identification

2.0 Classification of the complete product according to Regulation (EC) 1272/2008



GHS02 GHS05 GHS06 GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H290	Met. Corr. 1
H301	Acute Tox. 3 oral
H311	Acute Tox. 3 derm.
H314	Skin Corr. 1 B
H331	Acute Tox. 3 inh.
H370	STOT SE 1
H373	STOT RE 2
H413	Aquatic Chronic 4

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

24 mL CI-2

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GHS02



GHS06



GHS08

Signal word

DANGER

Hazard identification

Hazard classes/categories

H225	Flam. Liq. 2
H301	Acute Tox. 3 oral
H311	Acute Tox. 3 derm.
H331	Acute Tox. 3 inh.
H370	STOT SE 1
H373	STOT RE 2
H413	Aquatic Chronic 4

20 mL Cl-1



GHS05



GHS07

Signal word

DANGER

Hazard identification

Hazard classes/categories

H290	Met. Corr. 1
H314	Skin Corr. 1 B
H332	Acute Tox. 4 inh.

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). 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).

24 mL Cl-2



GHS02



GHS06



GHS08

Signal word: DANGER

H301, H311, H331, H370

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled. Causes damage to organs.

P260sh, P264, P270, P271, P280, P301+310, P302+352, P330, P361+364, P405, P501

Do not breathe dust/vapours. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/clothing/eye/face protection. IF

SWALLOWED: Immediately call a POISON CENTER/ doctor. IF ON SKIN: Wash with plenty of water. Rinse mouth. Take off immediately all contaminated clothing and wash it before reuse. Store locked up. Dispose of contents/container to regulated waste treatment.

20 mL Cl-1



GHS05



GHS07

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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.

Label elements of the complete product



GHS02



GHS05



GHS06



GHS08

Signal word: DANGER

H301, H311, H314, H331, H370

Toxic if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. Toxic if inhaled. Causes damage to organs.

P260sh, P264, P270, P271, P280sh, P301+310, P303+361+353, P305+351+338, P330, P361+364, P405, P501

Do not breathe dust/vapours. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. 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. Rinse mouth. Take off immediately all contaminated clothing and wash it before reuse. 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. Flammable properties.

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 severe after oral intake, inhalation of vapours, skin contact, impairments of health or can lead to death even when only ingested in small quantities. Causes damage to organs.

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

24 mL Cl-2

Substance name: *mercury(II) thiocyanate*
CAS No.: 592-85-8

Substance rating: H300, Acute Tox. 2 oral, H310, Acute Tox. 2 derm., H330, Acute Tox. 2 inh., H373, STOT RE 2, H400, Aquatic Acute 1, H410, Aquatic Chronic 1

Formula: $\text{Hg}(\text{SCN})_2$

Pseudonym (de): Quecksilberthiodanid

EC No.: 209-773-0

Indice No.: 080-004-00-7

Concentration: 0,32 - <0,64 %

Correlation factor: x 0.78 (= %Hg)

The classification refers to the weight percentage of the metal (according to CLP regulation 2008/1272/EG Annex VI, 1.1.3.2 Note 1)

acc. CLP (GHS): H373, STOT RE 2, H413, Aquatic Chronic 4

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Substance name: *methanol*
CAS No.: 67-56-1

Substance rating: H225, Flam. Liq. 2, H301, Acute Tox. 3 oral, H311, Acute Tox. 3 derm., H331, Acute Tox. 3 inh.,
H370, STOT SE 1
Formula: CH₄O, CH₃OH
Pseudonym (de): Methylalkohol
REACH Reg. No.: 01-211943307-44-xxxx
EC No.: 200-659-6
Concentration: 95 - <100 %
acc. CLP (GHS): H225, Flam. Liq. 2, H301, Acute Tox. 3 oral, H311, Acute Tox. 3 derm., H331, Acute Tox. 3 inh.,
H370, STOT SE 1
Indice No.: 603-001-00-X

20 mL CI-1

Substance name: *nitric acid*
CAS No.: 7697-37-2

Substance rating: H272, Ox. Liq. 2, H314, Skin Corr. 1 A, H331, Acute Tox. 3 inh., EUH071, not defined
Formula: HNO₃•H₂O
Pseudonym (de): Hydrogennitrat, Scheidewasser
REACH Reg. No.: 01-2119487297-23-xxxx
EC No.: 231-714-2
Concentration: 13 - <20 %
acc. CLP (GHS): H290, Met. Corr. 1, H314, Skin Corr. 1 B, H332, Acute Tox. 4 inh.
Indice No.: 007-030-00-3

Substance name: *iron(III) nitrate*
CAS No.: 7782-61-8

Substance rating: H272, Ox. Liq. 2, H315, Skin Irrit. 2, H319, Eye Irrit. 2
Formula: Fe(NO₃)₃
EC No.: 233-899-5
Concentration: 1 - <10 %
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. Remove contaminated clothing. Show product package, packing insert and this material safety data sheet to the doctor. Take to a doctor, in a raised position if there are breathing difficulties.

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. Administer a Dexamethasone spray as soon as possible. Ensure quiet, warmth, and provide resuscitation if necessary. In the event of respiratory distress ensure that the patient inhales oxygen. Secure the breathing, heart and circulatory function. ---

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.



MACHEREY-NAGEL GmbH & Co. KG
Valencienner Str. 11
52355 Düren · Germany
www.mn-net.com

DE Tel.: +49 24 21 969-0 info@mn-net.com
CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com
FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
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4.2 Most important symptoms and effects, both acute and delayed

Damages organs. Rapid penetration and destruction of the skin. Especially in the heated form.
Causes severe skin burns and eye damage.

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

DANGER: Highly flammable (GHS regulation). Forms explosive vapour-air mixtures. 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

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

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in accordance with the test instruction, that comes with the product. Use only in well-ventilated working areas.

7.2 Conditions for safe storage, including any incompatibilities

Safe storage is guaranteed in the original packaging from MACHEREY-NAGEL. Products which are also classified as toxic must be kept under lock and key. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 3

Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage, and store in a well-ventilated place at max. 25 °C, away or preferably separate from substances with which a hazardous reaction could take place, so that they are not immediately accessible to outside parties. Use inbreakable container for transport of glass bottles.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls /personal protection

8.1 Control parameters

24 mL Cl-2

Chemical: *methanol*

CAS No.: 67-56-1

DNEL: [derm] 40 mg/kg bw/day; [inh] 260 mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): 20.8 mg/L no hazard identified

PNEC = Predicted No Effect Concentration

EU value: [TWA] 200 ppm / 260 mg/m³

TRGS 900 (DE): 200 ppm / 270 mg/m³

E/e respirable

Short-term exposure factor: 4 (II), H, Y

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

SUVA(CH) MAK value: 200 ppm / 260 mg/m³

SUVA(CH) BAT value: [U/c,b] 30 mg/L

TRGS 903 (DE): U/c,b 30 mg/L

B blood, U urine, a no limitation, b end of exposition or shift

NIOSH: [TWA, skin] 200 ppm / 260 mg/m³

NIOSH STEL: 250 ppm / 325 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] 200 ppm / 260 mg/m³

Chemical: *mercury(II) thiocyanate*

CAS No.: 592-85-8

EU value: [Hg] 0.02 e mg/m³

TRGS 900 (DE): 0,02 Hg E mg/m³

E/e respirable

Short-term exposure factor: 8 (II), H, Sh

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

SUVA(CH) MAK value: [Hg][MAK] 0,02 e/[STEL] 0,16 e mg/m³

SUVA(CH) BAT value: [Krea U/d] 35 µg/L

TRGS 903 (DE): [U/a Kreatinin] 25 µg/g

B blood, U urine, a no limitation, b end of exposition or shift

NIOSH: [Hg vapor: TWA_{skin}] 0.05; other 0.1 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] 0.1 mg/m³

20 mL Cl-1

Chemical: *iron(III) nitrate*

CAS No.: 7782-61-8

SUVA(CH) MAK value: 1 e mg/m³

Chemical: *nitric acid*

CAS No.: 7697-37-2

DNEL: [inh] (1.3) mg/m³

DNEL = Derived No-Effect Level (for workers)

PNEC (fresh water): no hazard identified

PNEC = Predicted No Effect Concentration

EU value: 1 ppm / 2.6 mg/m³

TRGS 900 (DE): 1 ppm / 2,6 mg/m³

E/e respirable



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Valencienner Str. 11
52355 Düren · Germany
www.mn-net.com

DE Tel.: +49 24 21 969-0 info@mn-net.com
CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com
FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
US Tel.: +1 888 321 62 24 sales-us@mn-net.com

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Short-term exposure factor: -

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

SUVA(CH) MAK value: 2 ppm / 5 mg/m³

NIOSH: [TWA] 2 ppm / 5 mg/m³

NIOSH STEL: 4 ppm / 10 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 = 500 lbs) n/a; [TWA] 2 ppm / 5 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

Use for open access of these substances for example a protection filter, class A/AX. 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

24 mL CI-2

a) State of aggregation:	liquid
b) Colour:	rose
c) Odor:	alcoholic
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:	18 °C
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	-
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:	0,79 g/cm ³
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

20 mL CI-1

a) State of aggregation:	liquid
b) Colour:	slightly yellow
c) Odor:	nitric
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



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52355 Düren · Germany
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DE Tel.: +49 24 21 969-0 info@mn-net.com
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FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
US Tel.: +1 888 321 62 24 sales-us@mn-net.com

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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:	no data available
n) Dispersion coefficient (K _{ow}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1,15 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 volatile and form flammable gas-air mixtures. Substances are highly corrosive.

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

Can react violently with organic material. Possible: &H:EUH031& No further data available.

10.4 Conditions to avoid

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.

24 mL Cl-2

Chemical:	<i>methanol</i>	CAS No.: 67-56-1
TSCA Inventory:	listed	California Proposition 65 List: listed, developmental
ACGIH:	200 ppm / 160 mg/m ³	
Exposure Routes:	inhalation, skin absorption, ingestion, skin and/or eye contact	
Target Organs:	Eyes, skin, respiratory system, central nervous system, gastrointestinal tract	
Symptoms:	irritation eyes, skin, upper respiratory system; headache, drowsiness, dizziness, nausea, vomiting;	
visual disturbance, optic nerve damage (blindness)		
Australia NICNAS:		Canada CEPA 1999: DSL yes
Japan CSCL/PRTR:	PAC yes, Japan PDSCL: Deleterious Substance	
Japan ISHL:	listed ≥0,3%/≥0,1%, Article 57-2 (SDS required)	
South Korea TCCA:	Accident Precaution Chemical yes	
Korea Exist.Chem.Inventory:	KE-23193, Toxic 97-1-80	
LD50 orl rat :	5628 mg/kg	
LC _{Low} ihl rat :	64,000 mg/L/4H	
LC _{Low} orl hmn :	143 mg/kg	



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Valenciennr Str. 11
52355 Düren · Germany
www.mn-net.com

DE Tel.: +49 24 21 969-0 info@mn-net.com
CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com
FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
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LC50 ihl rat : >80 mg/L/4H

LD50 orl mus : 7300 mg/kg

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

Chronic Effects: Causes damage to organs.

TRGS 905 (DE): R F C

Chemical: *mercury(II) thiocyanate*

CAS No.: 592-85-8

TSCA Inventory: listed

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

Target Organs: Eyes, skin, respiratory system, central nervous system, kidneys

Symptoms: irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor,

insomnia, irritability, indecision, headac

Japan CSCL/PRTR: PRTR: ≥1,0%Hg class I, Japan PDSCl: Poisonous substance

Japan ISHL: listed ≥0,3%/≥0,1%

Korea Exist.Chem.Inventory: KE-05-0812, Toxic 97-1-140

LD50 orl rat : 46 mg/kg

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

TRGS 907 (DE): Sh

20 mL Cl-1

Chemical: *iron(III) nitrate*

CAS No.: 7782-61-8

TSCA Inventory: listed (CAS 10421-48-4)

Japan ISHL: listed >1,0%/>1,0%

LD50 orl rat : 3250 mg/kg

Chemical: *nitric acid*

CAS No.: 7697-37-2

TSCA Inventory: listed California Proposition 65 List: not listed

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

Target Organs: Eyes, skin, respiratory system, teeth

Symptoms: irritation eyes, skin, mucous membrane; delayed pulmonary edema, pneumonitis, bronchitis; dental erosion

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-25911, >10% Toxic 97-1-246, Acc. Precaution Chem.

LC Low orl hmn : 1500 mg/kg/NOAEC

LC50 ihl rat : 2,65 mg/L/4H

Acute Effects: Cause after skin contact, impairments of health when ingested in small quantities.

TRGS 905 (DE): R F D

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.

24 mL Cl-2

Substance name: *methanol*

CAS-Nr.: 67-56-1

Do not release into the environment.

PNEC (fresh water) : 20.8 mg/Lno hazard identified

PNEC = Predicted No Effected Concentration = concentration at which no effect on the environment is expected

LC50 daphnia magna/48h : [24h] 23.5 g/L

LC50 pimephales promelas/96h : 29.4 g/L

LC50 fish/96h : 15.4 g/L

EC50 daphnia/48h : >10 g/L

IC50 scenedesmus quadricauda/72h : [IC5 8d] 8000 mg/L

EC10 pseudomonas putita/16h : [EC5] 6.6 g/L



MACHEREY-NAGEL GmbH & Co. KG
Valenciennr Str. 11
52355 Düren · Germany
www.mn-net.com

DE Tel.: +49 24 21 969-0 info@mn-net.com
CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com
FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
US Tel.: +1 888 321 62 24 sales-us@mn-net.com

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Water hazard class (DE): 2 WGK No.: 0145
Storage class (VCI): 3

Substance name: *mercury(II) thiocyanate*

CAS-Nr.: 592-85-8

May cause long lasting harmful effects to aquatic life. Do not release into the environment.

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

Bio Toxicity: LC 50 : 0.5 HgCl₂/48h mg/L
Water hazard class (DE): 3 WGK No.: 0413
Storage class (VCI): 12

20 mL Cl-1

Substance name: *iron(III) nitrate*

CAS-Nr.: 7782-61-8

LC50 fish/96h : 72 mg/L

EC50 daphnia/48h : EC0 = 107 mg/L

Water hazard class (DE): 1 WGK No.: 0516

Storage class (VCI): 5.1 B

Substance name: *nitric acid*

CAS-Nr.: 7697-37-2

Do not release into the environment.

PNEC (fresh water) : no hazard identified

PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected

LC50 daphnia magna/48h : 180 mg/L

LC50 fish/96h : [4d] 12 g/L

Water hazard class (DE): 1 WGK No.: 0414

Storage class (VCI): 8 B

12.2 Persistence and degradability

12.3 Bioaccumulative potential

24 mL Cl-2

Substance name: *methanol*
Dispersion coefficient (K_{ow}): -0,77

CAS-Nr.: 67-56-1

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). Close container tightly.

13.1 Waste treatment methods

Normally it is possible to empty small amounts (diluted!) into drains. **Not for** mercury containing test solutions, please collect for disposal of hazardous waste. Empty containers of corrosive reagents prior to disposal, rinse with water. Dispose of contents/container to regulated waste treatment.

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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) UN 1993 class 3 II, class 8 II, **Excepted Quantities** ($\leq 30 \text{ mL}/\Sigma \leq 500 \text{ mL}$) = ADR/ IATA E2

or

14.1 UN number: 1992

14.2 UN proper shipping name: Flammable liquid, toxic, n.o.s. (methanol solution)

14.3 Class: 3 Additionally class: 6.1

14.4 Packing group: II

Road transport ADR

Classification code: FT1

Limited Quantity: 1 L

Excepted Quantity: E 2

Special instructions: 274

Tunnel restriction code: E

Air transport IATA DGR

Limited Quantity: PAX: 352 max. quantity PAX: 1 L

CAO: 364 max. quantity CAO: 60 L

Excepted Quantity: E 2

Maritime transport IMDG

EmS: F-E, S-D Staukategorie: B

Special instructions: 274

14.1 UN number: 3264

14.2 UN proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (nitric acid solution)

14.3 Class: 8

14.4 Packing group: II

Road transport ADR

Classification code: C1

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: 274

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.



MACHEREY-NAGEL GmbH & Co. KG
Valencienner Str. 11
52355 Düren · Germany
www.mn-net.com

DE Tel.: +49 24 21 969-0 info@mn-net.com
CH Tel.: +41 62 388 55 00 sales-ch@mn-net.com
FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
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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
 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 2.2.2.13 and 2.2.2.2 following changes were applied: - 11 substance data corrected

16.2 List of H and P phrases

16.2.1 List of relevant H phrases

H
 Between versions 2.2.2.13 and 2.2.2.2 following changes were applied: - 11 substance data corrected
 H225 Highly flammable liquid and vapour.
 H290 May be corrosive to metals.
 H301 Toxic if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H331 Toxic if inhaled.
 H332 Harmful if inhaled.
 H370 Causes damage to organs.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H413 May cause long lasting harmful effects to aquatic life.

16.2.2 List of relevant P phrases

P260sh Do not breathe dust/vapours.
 P264 Wash hands thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P280sh Wear protective gloves/eye protection.
 P301+310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
 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.
 P330 Rinse mouth.
 P361+364 Take off immediately all contaminated clothing and wash it before reuse.
 P405 Store locked up.
 P501 Dispose of contents/container to regulated waste treatment.

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
 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



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 52355 Düren · Germany
www.mn-net.com

DE Tel.: +49 24 21 969-0 info@mn-net.com
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Regulation 487/2013/EU, adaptation of regulation 1272/2008/EC to technical and scientific progress (4th ATP)
Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EC to technical and scientific progress (7th ATP)
Regulation 776/2017/EU, adaptation of regulation 1272/2008/EC to technical and scientific progress (10th ATP)

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/EC to technical and scientific progress (13th ATP)
Regulation 521/2019/EU, adaptation of regulation 1272/2008/EC 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
EU:	European Union
fish:	fish (not spezified)
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:	letale concentration 50%
LD50:	letale dosis 50%
leuciscus idus:	fisch, ide, orfe
MAK:	maximum workplace concentration



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Valenciennr Str. 11
52355 Düren · Germany
www.mn-net.com

DE Tel.: +49 24 21 969-0 info@mn-net.com
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FR Tel.: +33 388 68 22 68 sales-fr@mn-net.com
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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.: rRegistration 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.