

# Safety Data Sheet

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

REF: 985021	NANOCOLOR Chloride 50	Page: 1/13
Printing date: 22.11.2022	Date of issue: 29.08.2022	Version: 2.2.3.2

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

### 1.1 Product identifier

REF 985021  
 no data available NANOCOLOR Chloride 50  
 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 11 mL Chloride 50/200 (Cl - 2) UFI: F2UV-X38K-X207-FVUK  
 20 x 1 mL Chloride 50 (R0)

### 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  
 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 Gif tinformat ionszentrum (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>>

Lieferant / Supplier:  
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 Schoemperlenstr. 3-5  
 76105 Karlsruhe, Germany  
 +49 721 5606 0  
 sicherheit@carlroth.de

## SECTION 2: Hazard identification

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



Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H290	Met. Corr. 1
H301	Acute Tox. 3 oral
H302	Acute Tox. 4 oral
H311	Acute Tox. 3 derm.
H312	Acute Tox. 4 derm.
H314	Skin Corr. 1B
H331	Acute Tox. 3 inh.
H332	Acute Tox. 4 inh.
H370	STOT SE 1
H373	STOT RE 2
H413	Aquatic Chronic 4



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

11 mL Chloride 50/200 (Cl - 2)



GHS02 GHS06 GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
H225	Flam. Liq. 2
H301	Acute Tox. 3 oral
H302	Acute Tox. 4 oral
H311	Acute Tox. 3 derm.
H312	Acute Tox. 4 derm.
H331	Acute Tox. 3 inh.
H332	Acute Tox. 4 inh.
H370	STOT SE 1
H373	STOT RE 2
H413	Aquatic Chronic 4

1 mL Chloride 50 (R0)



GHS05 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H290	Met. Corr. 1
H314	Skin Corr. 1B
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). Inner packages up to 10 mL need max. 2 symbols (Annex I - 1.5.2.4.1 / 2). Harmful chemicals/mixtures with signal word: **WARNING** 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).

11 mL Chloride 50/200 (Cl - 2)



GHS02 GHS06 GHS08

Signal word: DANGER

H301, H311, H331, H370, H413

Toxic if swallowed. Toxic in contact with skin. Toxic if inhaled. Causes damage to organs. May cause long lasting harmful effects to aquatic life.

P260sh, P280sh, P301+310, P405

Do not breathe dust/vapours. Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Store locked up.

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## 1 mL Chloride 50 (R0)



GHS05



GHS07

Signal word: DANGER

H314

Causes severe skin burns and eye damage.

P260sh, P280sh, P303+361+353, P305+351+338

Do not breathe dust/vapours. 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.

## Label elements of the complete product



GHS02



GHS05



GHS06



GHS08

Signal word: DANGER

H301, H311, H314, H331, H370, H413

Toxic if swallowed. Toxic in contact with skin. Causes severe skin burns and eye damage. Toxic if inhaled. Causes damage to organs. May cause long lasting harmful effects to aquatic life.

P260sh, P280sh, P301+310, P303+361+353, P305+351+338, P405

Do not breathe dust/vapours. 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. Store locked up.

## 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

May cause long lasting harmful effects to aquatic life. Avoid contact of substance/mixture to 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

#### 11 mL Chloride 50/200 (Cl<sup>-</sup> 2)

Substance name: *mercury(II) thiocyanate*

CAS No.: 592-85-8

Substance rating: H301, Acute Tox. 3 oral, H311, Acute Tox. 3 derm., H331, Acute Tox. 3 inh., H373, STOT RE 2, H400, Aquatic Acute 1, H410, Aquatic Chronic 1

Formula: Hg(SCN)<sub>2</sub>

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): H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H332, Acute Tox. 4 inh., 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: CH<sub>4</sub>O, CH<sub>3</sub>OH  
 Pseudonym (de): Methylalkohol  
 REACH Reg. No.: 01-2119433307-44-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

### 1 mL Chloride 50 (R0)

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

Substance rating: H272, Ox. Liq. 3, H290, Met. Corr. 1, H314, Skin Corr. 1A, H331, Acute Tox. 3 inh.  
 Formula: HNO<sub>3</sub>•H<sub>2</sub>O  
 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. 1B, H332, Acute Tox. 4 inh.

Indice No.: 007-004-00-1

### 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.

### 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. ---

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## 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

May cause long lasting harmful effects to aquatic life. Avoid contact of substance/mixture to 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

## 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. Use a safety bottle when shaking test tubes.

### 7.2 Conditions for safe storage, including any incompatibilities

Safe storage is guaranteed in the original packaging . 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.



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## SECTION 8: Exposure controls /personal protection

### 8.1 Control parameters

#### 11 mL Chloride 50/200 (Cl - 2)

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

EU value: [Hg] 0.02 e mg/m<sup>3</sup>

TRGS 900 (DE): 0,02 Hg E mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 8 (I), 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/m<sup>3</sup>

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<sub>skin</sub>] 0.05; other 0.1 mg/m<sup>3</sup>  
[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/m<sup>3</sup>

Chemical: *methanol*

CAS No.: 67-56-1

DNEL: [derm] 40 mg/kg bw/day; [inh] 260 mg/m<sup>3</sup>

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/m<sup>3</sup>

TRGS 900 (DE): 200 ppm / 270 mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 4 (I), 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/m<sup>3</sup>

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/m<sup>3</sup>

NIOSH STEL: 250 ppm / 325 mg/m<sup>3</sup>

[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/m<sup>3</sup>

#### 1 mL Chloride 50 (R0)

Chemical: *nitric acid* CAS No.: 7697-37-2

DNEL: [inh] (1.3) mg/m<sup>3</sup>

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/m<sup>3</sup>

TRGS 900 (DE): 1 ppm / 2,6 mg/m<sup>3</sup>  
E/e respirable

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/m<sup>3</sup>

NIOSH: [TWA] 2 ppm / 5 mg/m<sup>3</sup>

NIOSH STEL: 4 ppm / 10 mg/m<sup>3</sup>

[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/m<sup>3</sup>

### 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.



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- 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

**11 mL Chloride 50/200 (Cl - 2)**

- a) State of aggregation:
- b) Colour: colourless
- c) Odor: red
- 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: 11 °C
- i) Flashing temperature: no data available
- j) Decomposition temperature: no data available
- k) pH value: no data available
- l) Kinematic viscosity: no data available
- m) Solubility in water: no data available
- n) Dispersion coefficient (o/w) : no data available
- o) Vapour pressure (20°C): no data available
- p) Specific gravity: no data available
- q) Relative vapour density (air=1) : no data available
- r) Particle size: no data available

**1 mL Chloride 50 (R0)**

- a) State of aggregation:
- b) Colour: colourless
- c) Odor: red
- d) Melting point: no data available
- e) Boiling point: no data available
- f) Flammability: no data available
- g) Explosive limits (lower / upper): no data available
- h) Flash point: no data available
- i) Flashing temperature: no data available
- j) Decomposition temperature: no data available
- k) pH value: 0-1
- l) Kinematic viscosity: no data available
- m) Solubility in water: 0-100 %
- n) Dispersion coefficient (o/w) : no data available
- o) Vapour pressure (20°C): no data available
- p) Specific gravity: 1,12 g/cm<sup>3</sup>
- q) Relative vapour density (air=1) : no data available
- r) Particle size: no data available

### 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**  
 Substances are highly volatile and form flammable gas-air mixtures. Substances are highly corrosive.



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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Strong CORROSIVE, no further data available.

### 10.2 Chemical stability

no known instability.

### 10.3 Possibility of hazardous reactions

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

### 10.4 Conditions to avoid

Observe the storage temperature printed on it. No more required.

### 10.5 Incompatible materials

no additional data available

### 10.6 Hazardous decomposition products

In the original package all parts/all reagents are safety and separated stored. Decompositions are not observed during the expiration period under recommended conditions.

## SECTION 11: Toxicological information

### 11.1 Information on the hazard classes according regulation (EC) 1272/2008

Following information is valid for pure substances. Quantitative data on the toxicity of this product are not available.

#### 11 mL Chloride 50/200 (Cl - 2)

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  
 Acute Effects: Cause after oral intake, inhalation of vapours/dust, skin contact, impairments of health when ingested in small quantities.  
 Chronic Effects: May cause damage to organs through prolonged or repeated exposure.  
 TRGS 907 (DE): Sh

#### Chemical: *methanol* CAS No.: 67-56-1

TSCA Inventory: listed California Proposition 65 List: listed, developmental  
 ACGIH: 200 ppm / 160 mg/m<sup>3</sup>  
 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<sub>Low</sub> ihl rat : 64,000 mg/L/4H  
 LC<sub>Low</sub> orl hmn : 143 mg/kg  
 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

#### 1 mL Chloride 50 (R0)



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Chemical:	<i>nitric acid</i>	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 <sub>50</sub> Low orl hmn :	1500 mg/kg/NOAEC	
LC <sub>50</sub> 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.

**11 mL Chloride 50/200 (Cl - 2)**

Chemical:	<i>mercury(II) thiocyanate</i>	CAS No.: 592-85-8
Bio Toxicity:	LC <sub>50</sub> : 0.5 HgCl <sub>2</sub> /48h mg/L	
Water hazard class (DE):	3	WGK No.: 0413
Storage class (VCI):	12	

**methanol**

Chemical:	<i>methanol</i>	CAS No.: 67-56-1
PNEC (fresh water) :	20.8 mg/Lno hazard identified	
PNEC = Predicted No Effected Concentration		
LC <sub>50</sub> daphnia magna/48h :	[24h] 23.5 g/L	
LC <sub>50</sub> pimephales promelas/96h :	29.4 g/L	
LC <sub>50</sub> fish/96h :	15.4 g/L	
EC <sub>50</sub> daphnia/48h :	>10 g/L	
IC <sub>50</sub> scenedesmus quadricauda/72h :	[IC <sub>5</sub> 8d] 8000 mg/L	
EC <sub>10</sub> pseudomonas putita/16h :	[EC <sub>5</sub> ] 6.6 g/L	
Water hazard class (DE):	2	WGK No.: 0145
Dispersion coefficient (o/w) :	-0,77	
Storage class (VCI):	3	

**1 mL Chloride 50 (R0)**

Chemical:	<i>nitric acid</i>	CAS No.: 7697-37-2
PNEC (fresh water) :	no hazard identified	
PNEC = Predicted No Effected Concentration		
LC <sub>50</sub> daphnia magna/48h :	180 mg/L	
LC <sub>50</sub> fish/96h :	[4d] 12 g/L	
Water hazard class (DE):	1	WGK No.: 0414
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



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## 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

Not necessary, see above.

## SECTION 14: Transport information

**14.1. UN number:** 3316

**14.2. UN proper shipping name:** Chemical Kit

**14.3. Class:** 9 **14.4. Packing group:** II

*Road transport ADR*

Classification code: M11 Tunnel restriction code: E

Limited Quantity: acc. ADR 3.3.1/251: see LQ in Alternative declaration for transportation

*Air transport 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

Or use **Alternative declaration for transportation:**

UN No.: (see below) UN 1993 class 3 II, class 8 II, **Excepted Quantities** ( $\leq 30$  mL/ $\Sigma \leq 500$  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 **14.4 Packing group:** II Additionally class: 6.1

*Road transport ADR*

Classification code: FT1 Tunnel restriction code: E

Limited Quantity: 1 L

Excepted Quantity: E 2 Special instructions: 274

*Air transport ICAO*

Limited Quantity: LQ 0

Excepted Quantity: E 2

PAX: 352 max. weight PAX: 1 L

CAO: 364 max. weight CAO: 60 L

*Maritime transport IMDG*

EmS: F-E, S-D Storage category: B

**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 Tunnel restriction code: E

Limited Quantity: 1 L

Excepted Quantity: E 2

*Air transport ICAO*

Limited Quantity: LQ 22

Excepted Quantity: E 2

PAX: 851 max. weight PAX: 1 L

CAO: 855 max. weight CAO: 30 L

*Maritime transport IMDG*

EmS: F-A, S-B Storage category: B



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- 14.5 Environmental hazards**  
none, contains only small quantities of hazardous substances
- 14.6 Special precautions for user**  
not necessary
- 14.7 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**  
 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](http://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**  
Between versions 2.2.3.2 and 2.2.2.2 following changes were applied: - 1 composition data corrected

### 16.2 List of H and P phrases

- 16.2.1 List of relevant H phrases**
  - H225 Highly flammable liquid and vapour.
  - H290 May be corrosive to metals.
  - H301 Toxic if swallowed.
  - H302 Harmful if swallowed.
  - H311 Toxic in contact with skin.
  - H312 Harmful 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.
  - P261sh Avoid breathing dust/vapours.
  - P264W Wash with water thoroughly after handling.
  - P273 Avoid release to the environment.
  - P280sh Wear protective gloves/eye protection.
  - P301+310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
  - P302+352 IF ON SKIN: Wash with plenty of water.
  - P303+361+353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  - P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



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P310	Immediately call a POISON CENTER/doctor.
P311	Call a POISON CENTER/doctor.
P312	Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P403+233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

## 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 dangerous working materials  
 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 the CLP Regulation 1272/2008/EU to technical and scientific progress  
 Regulation 453/2010/EU REACH – REQUIREMENTS FOR THE PREPARATION OF SAFETY DATA SHEET  
 Regulation 487/2013/EU, 4. Adaptation of the CLP regulation to technical and scientific progress  
 Regulation 669/2018/EU, 4. Adaptation of the CLP regulation to technical and scientific progress  
 Regulation 1480/2018/EU, 4. Adaptation of the CLP regulation to technical and scientific progress  
 TRGS 900, German engineering rules on limit values in the air at work, as of 03/2019  
 Regulation 878/2020/EU  
 Regulation 849/2021/EU, 4. Adaptation of the CLP regulation to technical and scientific progress

### Revisions/Updates

Reason for revision: 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary  
 2014-04 Adjustment of Regulation 487/2013/EU  
 2016-03 Adjustment of Regulation 1221/2015/EU  
 2017-11 adaptation of the ECHA registration dossier  
 2022-11 Adjustment of 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 specified)
GHS:	Global Harmonized System of Classification and Labeling of Chemicals
gpg:	guinea pig



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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  
 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  
 rb: 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.



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