

# Safety Data Sheet

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

REF: 918101	NANOCOLOR Lead, without CCl4	Page: 1/14
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

REF 918101  
 Product name NANOCOLOR Lead, without CCl4

REACH Registration number(s): see SECTION 3.1/3.2 or  
 A registration number for the substance(s) does not exist because the annual tonnage does not require registration or the substance or its use is excluded from registration.

- 1 x 15 mL Lead R1
- 2 x 75 mL Lead R2
- 3 x 100 mL Lead R3
- 1 x 20 g Lead R4
- 1 x 10 g Lead R5
- 1 x 5 g wadding

### 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  
 Neumann-Neander-Str. 6-8, 52355 Dueren, 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

### 2.0 Classification of the complete product



Signal word DANGER

Hazard identification	Hazard classes/categories
EUH032	not defined
H225	Flam. Liq. 2
H290	Met. Corr. 1
H300	Acute Tox. 1 oral
H302	Acute Tox. 4 oral
H310	Acute Tox. 1 derm.
H312	Acute Tox. 4 derm.
H315	Skin Irrit. 2
H317	Skin Sens. 1
H319	Eye Irrit. 2
H330	Acute Tox. 1 inh.
H351	Carc. 2
H373	STOT RE 2
H400	Aquatic Acute 1
H410	Aquatic Chronic 1

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## 2.1 Classification of the substance or mixture

### 15 mL Lead R1



GHS02

Signal word

DANGER

**Hazard identification**

**Hazard classes/categories**

H225

Flam. Liq. 2

### 75 mL Lead R2



GHS07

Signal word

WARNING

**Hazard identification**

**Hazard classes/categories**

H315

Skin Irrit. 2

H319

Eye Irrit. 2

### 100 mL Lead R3



GHS06



GHS09

Signal word

DANGER

**Hazard identification**

**Hazard classes/categories**

EUH032

not defined

H300

Acute Tox. 1 oral

H310

Acute Tox. 1 derm.

H330

Acute Tox. 1 inh.

H410

Aquatic Chronic 1

### 20 g Lead R4



GHS07



GHS08



GHS09

Signal word

WARNING

**Hazard identification**

**Hazard classes/categories**

H290

Met. Corr. 1

H302

Acute Tox. 4 oral

H312

Acute Tox. 4 derm.

H315

Skin Irrit. 2

H317

Skin Sens. 1

H319

Eye Irrit. 2

H351

Carc. 2

H373

STOT RE 2

H400

Aquatic Acute 1

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## 10 g Lead R5

Signal word Do not need labelling as hazardous  
-  
No hazard class

## 5 g wadding

Signal word Do not need labelling as hazardous  
-  
No hazard class

## 2.2 Label elements

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). This labelling exemption is NOT valid for sensibilizing substances. 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).

### 15 mL Lead R1



GHS02

Signal word: DANGER

### 75 mL Lead R2



GHS07

Signal word: WARNING

### 100 mL Lead R3



GHS06



GHS09

Signal word: DANGER

H300, H310, H330, H410, EUH032

Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled. Very toxic to aquatic life with long lasting effects. Contact with acids liberates very toxic gas.

P260sh, P280sh, P301+310, P302+352, P391, P405

Do not breathe dust/vapours. Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. IF ON SKIN: Wash with plenty of water. Collect spillage. Store locked up.

### 20 g Lead R4



GHS07



GHS08



GHS09

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Signal word: WARNING

H317, H351

May cause an allergic skin reaction. Suspected of causing cancer.

P261sh, P280sh

Avoid breathing dust/vapours. Wear protective gloves/eye protection.

## 10 g Lead R5

Do not need labelling as hazardous

Signal word: -

## 5 g wadding

Do not need labelling as hazardous

Signal word: -

## 2.3 Other hazards

### Possible hazards from physicochemical properties

In the case of pH values are less than 5 or higher than 9 then it is irritant. Flammable properties. ---

### Information pertaining to particular risks to human and possible symptoms

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. Cause after oral intake, inhalation of vapours/dust, skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts. Suspected of causing cancer. -

### Information pertaining to particular risks to the environment

Very toxic to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.

**PBT:** not applicable

**vPvB:** not applicable

### Other hazards

---

## SECTION 3: Composition/information on ingredients

### 3.1 Substances or 3.2 Mixtures

#### 15 mL Lead R1

Chemical: *ethanol*

CAS No.: 64-17-5

(denatured with 1%IPA/1%MEK, acc.2016/1867/EU)

Classification: H225, Flam. Liq. 2

Formula: C<sub>2</sub>H<sub>6</sub>O; C<sub>2</sub>H<sub>5</sub>OH

Pseudonym: ethyl alcohol, methylated spirit

TSCA Inventory: listed

REACH Reg. No.: 01-2119457610-43-xxxx

EC No.: 200-578-6

Indice No.: 603-002-00-5

RTECS: KQ6300000

MFCD: 00003568

KE No.: KE-13217

Concentration: 75 - <90 %

acc. CLP (GHS): H225, Flam. Liq. 2

Chemical: *indicator dye(s)*

CAS No.: -

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

TSCA Inventory: all listed, <1%

Concentration: 0,1 - <1 %

acc. CLP (GHS): The criteria for classification are not fulfilled.

#### 75 mL Lead R2

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Chemical: *ammonia solution* CAS No.: 1336-21-6  
 Classification: H314, Skin Corr. 1B, H335, STOT SE 3, H400, Aquatic Acute 1  
 Formula:  $NH_3 \cdot H_2O$   
 Pseudonym: ammonium hydroxide, Aqua ammonia, aqueous ammonia  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119488876-14-xxxx, 01-2119982985-14-XXXX  
 EC No.: 215-647-6 Indice No.: 007-001-01-2  
 RTECS: BQ9625000 MFCD: 00011418  
 KE No.: KE-01688, >10% Toxic 97-1-184  
 Concentration: 1 - <5 %  
 acc. CLP (GHS): H315, Skin Irrit. 2, H319, Eye Irrit. 2

### 100 mL Lead R3

Chemical: *potassium cyanide* CAS No.: 151-50-8  
 Classification: H300, Acute Tox. 2 oral, H310, Acute Tox. 2 derm., H330, Acute Tox. 2 inh., H410, Aquatic Chronic 1, EUH032, not defined  
 Formula: KCN  
 TSCA Inventory: listed  
 REACH Reg. No.: 01-2119486407-29-xxxx  
 EC No.: 205-792-3 Indice No.: 006-007-00-5  
 RTECS: TS8750000 MFCD: 00011397  
 KE No.: KE-29092, >1% Toxic 97-1-90  
 Concentration: 7 - <15 % Correlation factor: x 0.40 (= %CN- )  
 The classification refers to weight percent of the metal (according to CLP Regulation 2008/1272/EC Annex VI, 1.1.3.2 Note 1)  
 acc. CLP (GHS): H300, Acute Tox. 2 oral, H310, Acute Tox. 2 derm., H330, Acute Tox. 2 inh., H410, Aquatic Chronic 1, EUH032, not defined

### 20 g Lead R4

Chemical: *hydroxylammonium chloride* CAS No.: 5470-11-1  
 Classification: H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H351, Carc. 2, H373, STOT RE 2, H400, Aquatic Acute 1  
 Formula:  $NH_2OH \cdot HCl / H_4CINO$   
 Pseudonym: hydroxylamin hydrochloride  
 TSCA Inventory: listed  
 REACH Reg. No.: as intermediate  
 EC No.: 226-798-2 Indice No.: 612-123-00-2  
 RTECS: NC3675000 MFCD: 00051089  
 KE No.: KE-20602, >1% Toxic 97-1-411  
 Concentration: 80 - <100 %  
 acc. CLP (GHS): H290, Met. Corr. 1, H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H351, Carc. 2, H373, STOT RE 2, H400, Aquatic Acute 1

### 10 g Lead R5

Chemical: *Dithizone (metal indicator)* CAS No.: 60-10-6  
 Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2  
 Formula:  $C_{13}H_{12}N_4S$   
 Pseudonym: 2-phenyl-diazene-carbothioic acid-2-phenylhydrazide  
 TSCA Inventory: listed  
 EC No.: 200-454-1  
 RTECS: LQ9450000 MFCD: 00003025  
 Concentration: 0,1 - <1 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Chemical: *sodium chloride* CAS No.: 7647-14-5  
 Classification: No criteria for classification or naming of chemical not required.  
 Formula: NaCl  
 Pseudonym: salt  
 TSCA Inventory: listed  
 REACH Reg. No.: exempt, Annex V  
 EC No.: 231-598-3  
 RTECS: VZ4725000  
 KE No.: KE-31387  
 Concentration: 50 - <80 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.



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5 g wadding

## 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

## 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 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. 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. ---

### 4.2 Most important symptoms and effects, both acute and delayed

May cause sensitization by skin contact, also in repeated contact of small amounts. Carcinogenic Effects: Suspected of causing cancer. ---

### 4.3 Indication of any immediate medical attention and special treatment needed

After SKIN CONTACT rinse with water for a long time. Apply glucocorticosteroides following inflammatory reactions. 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

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

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. ---

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## 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. 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

not necessary, contains only small amounts of these substances

### 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 ---

## 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

The original product package of MACHEREY-NAGEL allows a safe storage. Products containing also toxic substances should be kept locked up.

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

#### 15 mL Lead R1

Chemical: *ethanol*

CAS No.: 64-17-5

DNEL: [derm] 343 mg/kg; [inh] 950 mg/m<sup>3</sup>

DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 0.96 mg/L  
PNEC = Predicted No Effect Concentration

TRGS 900 (DE): 200 mL/m<sup>3</sup> / 380 mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 4 (I), Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 500 ppm / 960 mg/m<sup>3</sup>

NIOSH: [TWA] 1000 ppm / 1900 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] 1000 ppm / 1900 mg/m<sup>3</sup>

Chemical: *indicator dye(s)*

CAS No.: -

#### 75 mL Lead R2

Chemical: *ammonia solution*

CAS No.: 1336-21-6

DNEL: [inh] 14 mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

PNEC<sub>(fresh water)</sub>: 0.0011 mg/L  
PNEC = Predicted No Effect Concentration

EU value: 20 ppm / 14 mg/m<sup>3</sup>

TRGS 900 (DE): 20 ppm / 14 mg/m<sup>3</sup>  
E/e respirable

Short-term exposure factor: 2 (I), Y  
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 20 ppm / 14 mg/m<sup>3</sup>

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NIOSH: [TWA] 25 ppm / 18 mg/m<sup>3</sup>  
 NIOSH STEL: 35 ppm / 27 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: Yes (TQ = 15000 lbs) - n/a; [TWA] 50 ppm / 35 mg/m<sup>3</sup>

### 100 mL Lead R3

Chemical: *potassium cyanide* CAS No.: 151-50-8  
 EU value: CN: [TWA] 1 / [STEL] 5 mg/m<sup>3</sup>  
 TRGS 900 (DE): [CN 8h] 1 / [15min] 5 mg/m<sup>3</sup>  
 E/e respirable

Short-term exposure factor: (4), H  
 skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded

SUVA(CH) MAK value: 5CN e mg/m<sup>3</sup>  
 NIOSH: not listed  
 NIOSH STEL: skin, HCN 4.7 ppm / 5 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: EPCRA/SARA Section 302 Extremely Hazardous Substances Yes (TPQ = 100 lbs) n/a; TWA<sub>skin, HCN</sub> 10 ppm / 11 mg/m<sup>3</sup>

### 20 g Lead R4

Chemical: *hydroxylammonium chloride* CAS No.: 5470-11-1  
 TRGS 900 (DE): 1.5 mg/m<sup>3</sup>  
 E/e respirable

NIOSH: not listed  
 [TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: not listed

### 10 g Lead R5

Chemical: *Dithizone (metal indicator)* CAS No.: 60-10-6

Chemical: *sodium chloride* CAS No.: 7647-14-5

### 5 g wadding

## 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 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

Recommended 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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### 15 mL Lead R1

Appearance: liquid	Colour: colourless	Odor: alcoholic
pH: 2-3		
Flash point: 18 °C		
Specific gravity: 0,91 g/cm <sup>3</sup>		
Solubility in water: 0-100 %		



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## 75 mL Lead R2

Appearance: liquid  
pH:  
Specific gravity:  
Solubility in water:

Colour: colourless  
9-10  
0,99 g/cm<sup>3</sup>  
0-100 %

Odor: aminic

## 100 mL Lead R3

Appearance: liquid  
pH:  
Solubility in water:

Colour: colourless  
12-13  
0-100 %

Odor: bitter almond

## 20 g Lead R4

Appearance: solid  
pH:  
Solubility in water:

Colour: colourless  
4-5  
0-45 %

Odor: odorless

## 10 g Lead R5

Appearance: powder (solid)  
pH:

Colour: green  
6-8

Odor: odorless

## 5 g wadding

Appearance: solid  
pH:  
Solubility in water:

Colour: colourless  
-  
-

Odor: odorless

## 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

Substances are very volatile and form flammable vapour-air mixtures. ---

## 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

Possible: Contact with acids liberates toxic gas. No further data available.

### 10.4 Conditions to avoid

Not necessary. Observe labeled storage temperature. ---

### 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.

#### 15 mL Lead R1

Chemical:	<i>ethanol</i>	CAS No.:	64-17-5
TSCA Inventory:	listed	California Proposition 65 List:	not listed
ACGIH:	1000 ppm		
Exposure Routes:	inhalation, ingestion, skin and/or eye contact		
Target Organs:	Eyes, skin, respiratory system, central nervous system, liver, blood, reproductive system		
Symptoms:	irritation eyes, skin, nose; headache, drowsiness, lassitude (weakness, exhaustion), narcosis; cough;		
	liver damage; anemia; reproductive, teratogenic		
Australia NICNAS:	not listed	Canada CEPA 1999:	DSL yes
Japan CSCL/PRTR:	not listed, Japan PDSCL:		not listed

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Japan ISHL: listed  $\geq 0,1\%$ / $\geq 0,1\%$ , Article 57-2 (SDS required)  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-13217  
 LD50<sub>orl rat</sub>: 6200 mg/kg  
 LC<sub>Lowihl gpg</sub>: 21.9 g/m<sup>3</sup>  
 LC<sub>Loworl hmn</sub>: 1400 mg/kg  
 LC50<sub>ihl mouse</sub>: [4h] 39 g/m<sup>3</sup>  
 LC50<sub>ihl rat</sub>: [10h] 20 g/m<sup>3</sup>  
 LD50<sub>drm rbt</sub>: 20 000 mg/kg  
 LD50<sub>oral mouse</sub>: 3450 mg/kg

TRGS 905 (DE): K5, M5, R<sub>F</sub> C

Chemical: *indicator dye(s)* CAS No.: -  
 TSCA Inventory: all listed, <1%

## 75 mL Lead R2

Chemical: *ammonia solution* CAS No.: 1336-21-6  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 Exposure Routes: inhalation, ingestion (solution), skin and/or eye contact (solution/liquid)  
 Target Organs: Eyes, skin, respiratory system  
 Symptoms: irritation eyes, nose, throat; dyspnea (breathing difficulty), wheezing, chest pain; pulmonary edema;  
 pink frothy sputum; skin burns, vesiculation; I  
 Australia NICNAS: not listed Canada CEPA 1999: DSL yes, Toxic Substances (Schedule 1) Yes  
 (Item 53.)  
 Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance  
 Japan ISHL: listed  $\geq 0,2\%$ / $\geq 0,1\%$ , Article 57-2 (SDS required)  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-01688, >10% Toxic 97-1-184  
 LD50<sub>orl rat</sub>: 350 mg/kg  
 LC<sub>Lowihl hmn</sub>: 5000 mg/m<sup>3</sup>  
 LC50<sub>ihl rat</sub>: [4h] 2000 ppm  
 LD50<sub>drm rbt</sub>: [5min] 5000 ppm

## 100 mL Lead R3

Chemical: *potassium cyanide* CAS No.: 151-50-8  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 Target Organs: act on blood or hemato-poietic system: decrease hemoglobin function; deprive body tissues of oxygen  
 Symptoms: cyanosis; loss of consciousness  
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: Poisonous substance, PRTR:  $\geq 1,0\%$  CN class I, Japan PDSCL: Poisonous Substance  
 Japan ISHL: listed  $\geq 1,0\%$ / $\geq 1,0\%$ , Article 57-1+2 (Labelling&SDS required)  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-29092, >1% Toxic 97-1-90  
 LD50<sub>orl rat</sub>: 5 mg/kg  
 LC<sub>Loworl hmn</sub>: 2.86 mg/kg  
 LD50<sub>drm rbt</sub>: 14.3-33.3 mg/kg  
 LD50<sub>ipr rat</sub>: 4 mg/kg  
 LD50<sub>orl mus</sub>: 8.5 mg/kg  
 LD50<sub>scu rat</sub>: 7.8 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.  
 TRGS 905 (DE): R<sub>F</sub> C

## 20 g Lead R4

Chemical: *hydroxylammonium chloride* CAS No.: 5470-11-1  
 TSCA Inventory: listed California Proposition 65 List: not listed  
 Exposure Routes: -  
 Symptoms: -  
 Australia NICNAS: not listed Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious Substance  
 Japan ISHL: not listed  
 South Korea TCCA: not listed

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Korea Exist.Chem.Inventory: KE-20602, >1% Toxic 97-1-411

LD50<sub>orl rat</sub>: 141 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 sensitization by skin contact, also in repeated contact of small amounts. May cause damage to organs through prolonged or repeated exposure.

Carcinogenic Effects: Suspected of causing cancer.

TRGS 907 (DE): Sh

## 10 g Lead R5

Chemical: *Dithizone (metal indicator)*  
TSCA Inventory: listed

CAS No.: 60-10-6

Chemical: *sodium chloride*  
TSCA Inventory: listed  
Korea Exist.Chem.Inventory: KE-31387  
LD50<sub>orl rat</sub>: 3000 mg/kg  
LD50<sub>drm rbt</sub>: 10 g/kg

CAS No.: 7647-14-5

## 5 g wadding

## SECTION 12: Ecological information

### 12.1 Toxicity

Following information is valid for pure substances.

#### 15 mL Lead R1

Chemical: *ethanol*  
PNEC(fresh water): 0.96 mg/L  
PNEC = Predicted No Effect Concentration  
LC50<sub>daphnia magna/48h</sub>: >100 mg/L  
LC50<sub>pimephales promelas/96h</sub>: 13400 - 15100 mg/L  
LC50<sub>leuciscus idus/96h</sub>: [48h] 8140 mg/L  
LC50<sub>fish/96h</sub>: 13 g/L  
EC50<sub>daphnia/48h</sub>: 9.3-14.2 g/L  
IC50<sub>scenedesmus quadricauda/72h</sub>: [7d] 5000 mg/L  
EC10<sub>pseudomonas putita/16h</sub>: [EC5] 6500 mg/L  
Water hazard class (DE): 1 WGK No.: 0096  
Dispersion coefficient(octanol-water): -0.31  
Storage class (VCI): 3

CAS No.: 64-17-5

Chemical: *indicator dye(s)*  
Storage class (VCI): 12-13

CAS No.: -

#### 75 mL Lead R2

Chemical: *ammonia solution*  
PNEC(fresh water): 0.0011 mg/L  
PNEC = Predicted No Effect Concentration  
LC50<sub>fish/96h</sub>: 0,89 mg/L  
EC50<sub>daphnia/48h</sub>: 101 mg/L  
Water hazard class (DE): 2 WGK No.: 0211  
Storage class (VCI): 8 B

CAS No.: 1336-21-6

#### 100 mL Lead R3

Chemical: *potassium cyanide*  
Very toxic to aquatic life with long lasting effects. Avoid contact of substance/mixture to environment.  
Environmental hazards must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).  
LC50<sub>daphnia magna/48h</sub>: 248h ; 0.5324h mg/L  
LC50<sub>fish/96h</sub>: 0.45 mg/L  
EC50<sub>daphnia/48h</sub>: 0.041 mg/L  
IC50<sub>scenedesmus quadricauda/72h</sub>: 0.03<sub>8d</sub> mg/L  
EC10<sub>pseudomonas putita/16h</sub>: EC10/16h: 0.001 mg/L  
Water hazard class (DE): 3 WGK No.: 338

CAS No.: 151-50-8

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Storage class (VCI): 6.1 B

**20 g Lead R4**

Chemical: *hydroxylammonium chloride* CAS No.: 5470-11-1  
 Very toxic to aquatic life. Avoid contact of substance/mixture to environment.  
 Environmental hazards must not be labelled with H and P phrases until 125 mL (EU 1272/2008 Annex I - 1.5.2).  
 LC50<sub>leuciscus idus/96h</sub>: 1-10 mg/L  
 Water hazard class (DE): 3  
 Storage class (VCI): 4.1 A

**10 g Lead R5**

Chemical: *Dithizone (metal indicator)* CAS No.: 60-10-6  
 Water hazard class (DE): 3

Chemical: *sodium chloride* CAS No.: 7647-14-5  
 Water hazard class (DE): 1  
 Storage class (VCI): 12-13

**5 g wadding**

- 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

Do not collect in acidic waste. May form toxic gases.  
 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.  
 Dispose of contents/container to regulated waste treatment.

## 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*  
 Classification code: M11    Tunnel restriction code: E  
 Limited Quantity: acc. ADR 3.3.1/251: see LQ in Alternative declaration for transportation  
*Air transport*  
 PAX: 960    max. weight PAX: 10 KG  
 CAO: 960    max. weight CAO: 10 KG  
*Maritime transport*  
 EmS: F-A, S-P    Storage category: A

Or use **Alternative declaration for transportation:**

**14.1 UN number: 3413**    **14.2 UN proper shipping name: Potassium cyanide solution**  
**14.3 Class: 6.1**    **14.4 Packing group: II**  
*Road transport*  
 Classification code: T4  
 Limited Quantity: 100 mL    Tunnel restriction code: E  
 Excepted Quantity: E 4  
*Air transport*  
 PAX: 654    max. weight PAX: 5 L



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CAO: 662 max. weight CAO: 60 L  
*Maritime transport*  
 EmS: F-A, S-A Storage category: B  
 Maritime pollutant (5.2.1.6): P (Limited Quantity (LQ) until 5 L/kg per inner package)

## 14.5 Environmental hazards

none, contains only small quantities of hazardous substances, contains only small amounts of these 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](http://www.mn-net.com)  
 Look for your country-specific regulations.

### 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

H225 Highly flammable liquid and vapour.  
 H290 May be corrosive to metals.  
 H300 Fatal if swallowed.  
 H302 Harmful if swallowed.  
 H310 Fatal in contact with skin.  
 H312 Harmful in contact with skin.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H330 Fatal if inhaled.  
 H351 Suspected of causing cancer.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.  
 EUH032 Contact with acids liberates very toxic gas.

#### 16.1.2 List of relevant P phrases

P201 Obtain special instructions before use.  
 P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
 P233 Keep container tightly closed.  
 P260D Do not breathe vapours.  
 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.  
 P301+312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 P302+352 IF ON SKIN: Wash with plenty of water.  
 P304+340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P310 Immediately call a POISON CENTER/doctor.

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P330	Rinse mouth.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.
P403+233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

## 16.2 Training advice

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.

## 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 Further information

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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, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress

Regulation 669/2018/EU, 4<sup>th</sup> adaptation of CLP regulation to technical and scientific progress

TRGS 900, German engineering rules governing limits in air at work, updated 03/2018

SUVA .CH, Limits in air at work 2009, revised on 01.2009

TRGS 907, German engineering rules governing listing of substances and causes of sensitizations, updated November 2011

KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

### Revisions/Updates

Reason for Revision: 2016-03 Adaptation of regulation 1221/2015/EU

2017-08 Adaption of new ethanol denaturation 2016/1867/EU