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

1.1 Product identifier

REF 985096
Product name NANOCOLOR Zinc 4

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 5 mL Zinc 4 (R2)
1 x 3 g Zinc 4 (R3)
20 x 40 mg Zinc 4, lyophilizied (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
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

GHS03 GHS05 GHS06 GHS07 GHS08 GHS09

Signal word DANGER

Hazard identification	Hazard classes/categories
EUH032	not defined
H272	Ox. Sol. 2
H300	Acute Tox. 1 oral
H301	Acute Tox. 3 oral
H310	Acute Tox. 1 derm.
H315	Skin Irrit. 2
H318	Eye Dam. 1
H319	Eye Irrit. 2
H330	Acute Tox. 1 inh.
H335	STOT SE 3
H360FD	Repr. 1B
H410	Aquatic Chronic 1

2.1 Classification of the substance or mixture

5 mL Zinc 4 (R2)

GHS06 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H301	Acute Tox. 3 oral
H315	Skin Irrit. 2
H319	Eye Irrit. 2

3 g Zinc 4 (R3)

GHS03 GHS05 GHS07

Signal word DANGER

Hazard identification	Hazard classes/categories
H272	Ox. Sol. 2
H315	Skin Irrit. 2
H318	Eye Dam. 1
H335	STOT SE 3

40 mg Zinc 4, lyophilizied (R0)

GHS06 GHS07 GHS08 GHS09

Signal word DANGER

Hazard identification	Hazard classes/categories
EUH032	not defined
H300	Acute Tox. 1 oral
H310	Acute Tox. 1 derm.
H319	Eye Irrit. 2
H330	Acute Tox. 1 inh.
H360FD	Repr. 1B
H410	Aquatic Chronic 1

2.2 Label elements

According **CLP directive** inner packages must be only labelled with GHS symbol(s) and product identificator(s) (EU 1272/2008 Annex I - 1.5.1.2). 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** must not be labelled with H and P phrases **until 125 mL** (EU 1272/2008 Annex I - 1.5.2).
Oxidizing mixtures with signal word: **DANGER** and **H272** must not be labelled with H and P phrases **until 125 mL** .

5 mL Zinc 4 (R2)

GHS06 GHS07

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US: Tel.: +1 484 821 0984 Fax: +1 484 821 1272 E-mail: sales-us@mn-net.com

Signal word: DANGER

H301
Toxic if swallowed.

P280sh, P301+310, P405
Wear protective gloves/eye protection. IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Store locked up.

3 g Zinc 4 (R3)

GHS03 GHS05 GHS07

Signal word: DANGER

H318
Causes serious eye damage.

P280sh, P305+351+338, P310
Wear protective gloves/eye protection. 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.

40 mg Zinc 4, lyophilizied (R0)

GHS06 GHS07 GHS08 GHS09

Signal word: DANGER

H300, H310, H330, H360FD, H410
Fatal if swallowed. Fatal in contact with skin. Fatal if inhaled. May damage fertility. May damage the unborn child. Very toxic to aquatic life with long lasting effects.

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.

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

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

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

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SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

5 mL Zinc 4 (R2)

Chemical: *chloral hydrate* CAS No.: 302-17-0
Classification: H301, Acute Tox. 3 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2
Formula: $C_2 H_3 Cl_3 O_2 \cdot H_2 O$
Pseudonym: 2,2,2-trichloroethane-1,1-diol
TSCA Inventory: listed
REACH Reg. No.: -
EC No.: 206-117-5 Indice No.: 605-014-00-6
RTECS: FM8750000 MFCD: 00044479
KE No.: KE-34070
Concentration: 30 - <55 %
acc. CLP (GHS): H301, Acute Tox. 3 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2

3 g Zinc 4 (R3)

Chemical: *hydrogen peroxide urea* CAS No.: 124-43-6
Classification: H272, Ox. Liq. 2, H315, Skin Irrit. 2, H318, Eye Dam. 1, H335, STOT SE 3
Formula: $CH_4 N_2 O \cdot H_2 O_2$
Pseudonym: Percarbamide
TSCA Inventory: listed
EC No.: 204-701-4
RTECS: YT4860000 MFCD: 00013119
KE No.: KE-35147, >17% Toxic 97-1-3
Concentration: 20 - <40 %
acc. CLP (GHS): H272, Ox. Liq. 2, H315, Skin Irrit. 2, H318, Eye Dam. 1, H335, STOT SE 3

40 mg Zinc 4, lyophilizied (R0)

Chemical: *sodium tetraborate* CAS No.: 12267-73-1
Classification: H319, Eye Irrit. 2, H360FD, Repr. 1B
Formula: $Na_2 B_4 O_7$
TSCA Inventory: not listed
REACH Reg. No.: 01-2119490790-32-xxxx
SVHC listed: listed (18/06/2010)
EC No.: 215-540-4 Indice No.: 005-011-00-4
RTECS: ED4588000
KE No.: KE-33255
Concentration: 30 - <60 % Correlation factor: x 0.215 (= %B)
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): H319, Eye Irrit. 2, H360FD, Repr. 1B

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

Chemical: *Zincon* CAS No.: 62625-22-3
Classification: H315, Skin Irrit. 2, H319, Eye Irrit. 2
Formula: $C_{20} H_{15} N_4 NaO_6 S \cdot H_2 O$
Pseudonym: 2-[2-[[2-(2-hydroxy-5-sulfophenyl)diazenyl]phenylmethylene]hydrazinyl]-benzoic acid, sodium salt
TSCA Inventory: listed
EC No.: 263-651-1 MFCD: 00064385
Concentration: 0,1 - <1 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

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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 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. ---

4.2 Most important symptoms and effects, both acute and delayed

Carcinogenic Effects: May damage fertility. May damage the unborn child. ---

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. After EYE CONTACT rinse immediately with plenty of water for a long time. Eyelid convulsion measures. Name the corrosive chemical. Further treatment must to be carried out by an eye specialist. In the event of RESPIRATORY DISTREES 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. ---

SECTION 5: Firefighting measures

5.1 Extinguishing media

Fire extinguishers appropriate to the fire classification, and, if applicable, a fire blanket must be available in a prominent location in the work area. All extinguishers like FOAM, WATER SPRAY, DRY POWDER, CARBON DIOXIDE can be used.

5.2 Special hazards arising from the substance or mixture

Formation of hazardous and caustic vapour-air mixtures possible. ---

5.3 Advice for firefighters

No, for listed product. Product package burns like paper or plastic. 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.

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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. Use a safety bottle when shaking test tubes.

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): 5.1B
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

5 mL Zinc 4 (R2)

Chemical: *chloral hydrate* CAS No.: 302-17-0
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

3 g Zinc 4 (R3)

Chemical: *hydrogen peroxide urea* CAS No.: 124-43-6
TRGS 900 (DE): H_2O_2 1 ppm / 1,4 mg/m³
E/e respirable
SUVA(CH) MAK value: H_2O_2 1 ppm / 1,4 mg/m³

40 mg Zinc 4, lyophilizied (R0)

Chemical: *sodium tetraborate* CAS No.: 12267-73-1
TRGS 900 (DE): [B] 0.5 mg/m³
E/e respirable
Short-term exposure factor: 2 (I), Y
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: [als B][MAK] 0,8e*/[STEL] 0,8e* mg/m³
NIOSH: not listed ppm
[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 ppm

Chemical: *potassium cyanide* CAS No.: 151-50-8
EU value: CN: [TWA] 1 / [STEL] 5 mg/m³
TRGS 900 (DE): [CN 8h] 1 / [15min] 5 mg/m³
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: 5_{CN} e mg/m³
NIOSH: not listed
NIOSH STEL: skin, HCN 4.7 ppm / 5 mg/m³
[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

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OSHA: EPCRA/SARA Section 302 Extremely Hazardous Substances Yes (TPQ = 100 lbs) n/a; $TWA_{skin, HCN}$ 10 ppm / 11 mg/m³

Chemical: *Zincon* CAS No.: 62625-22-3

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 or face 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

5 mL Zinc 4 (R2)

Appearance: liquid	Colour: slightly yellow	Odor: organic
pH:	3,5-5,5	
Specific gravity:	1,24 g/cm³	
Solubility in water:	0-100 %	

3 g Zinc 4 (R3)

Appearance: solid	Colour: colourless	Odor: odorless
pH:	4	
Melting point:	instable 75-85 °C	
Specific gravity:	1,39 sol. g/cm³	
Solubility in water:	0-100 %	
Oxidising properties:	low potential and quantity	

40 mg Zinc 4, lyophilizied (R0)

Appearance: solid (lyoph.)	Colour: red	Odor: bitter almond
pH:	8-10	
Solubility in water:	0-100 %	

9.2 Other information

Data for the other parameters of the mixtures are not available, because no registration and no chemical safety report is required.
Relevant Properties of Substance Group

SECTION 10: Stability and reactivity

10.1 Reactivity

no further data available.

10.2 Chemical stability

No known instability.

10.3 Possibility of hazardous reactions

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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.

5 mL Zinc 4 (R2)

Chemical: *chloral hydrate* CAS No.: 302-17-0
TSCA Inventory: listed California Proposition 65 List: listed, cancer
Australia NICNAS: not listed Canada CEPA 1999: DSL Yes
Japan CSCL/PRTR: not listed, Japan PDSCL: not listed
Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-34070
$LD50_{orl\ rat}$: 479 mg/kg
$LC\_Low_{orl\ hmn}$: 4 mg/kg
$LD50_{ihl\ rat}$: 3030 mg/L
Acute Effects: Cause severe after oral intake, impairments of health or can lead to death even when only ingested in small quantities.

3 g Zinc 4 (R3)

Chemical: *hydrogen peroxide urea* CAS No.: 124-43-6
TSCA Inventory: listed
Japan CSCL/PRTR: not listed, Japan PDSCL: Deleterious substance,
Japan ISHL: not listed
Korea Exist.Chem.Inventory: KE-35147, >17% Toxic 97-1-3
$LD50_{orl\ rat}$: >2000 mg/kg
Acute Effects: Cause after inhalation of vapours/dust, impairments of health when ingested in small quantities.
TRGS 905 (DE): K4, R_F C

40 mg Zinc 4, lyophilizied (R0)

Chemical: *sodium tetraborate* CAS No.: 12267-73-1
TSCA Inventory: not listed California Proposition 65 List: not listed
Australia NICNAS: not listed Canada CEPA 1999: not listed
Japan CSCL/PRTR: PRTR: ≥1,0%B class I, Japan PDSCL: not listed
Japan ISHL: not listed
South Korea TCCA: not listed
Korea Exist.Chem.Inventory: KE-33255
$LD50_{orl\ rat}$: 2660 mg/kg
$LD50_{drm\ rbt}$: >2000 mg/kg

Carcinogenic Effects: May damage fertility. May damage the unborn child.
EU carcinogen: R_D 1B, R_F 1B

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: ≥1,0% CN class I, Japan PDSCL: Poisonous Substance
Japan ISHL: listed ≥1,0%/≥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
$LD50_{orl\ rat}$: 5 mg/kg
$LC\_Low_{orl\ hmn}$: 2.86 mg/kg

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$LD50_{drm\ rbt}$: 14.3-33.3 mg/kg
$LD50_{ipr\ rat}$: 4 mg/kg
$LD50_{orl\ mus}$: 8.5 mg/kg
$LD50_{scu\ rat}$: 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_F C

Chemical: *Zincon* CAS No.: 62625-22-3
TSCA Inventory: listed
$LD50_{orl\ rat}$: >2000 mg/kg

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

5 mL Zinc 4 (R2)

Chemical: *chloral hydrate* CAS No.: 302-17-0
Avoid contact of substance/mixture to environment.
Water hazard class (DE): 2 WGK No.: 0051
Storage class (VCI): 6.1 D

3 g Zinc 4 (R3)

Chemical: *hydrogen peroxide urea* CAS No.: 124-43-6
Water hazard class (DE): 1 WGK No.: (0288_{H2O2})
Storage class (VCI): 5.1 B

40 mg Zinc 4, lyophilizied (R0)

Chemical: *sodium tetraborate* CAS No.: 12267-73-1
$LC50_{fish/96h}$: 74 mg/L
$EC50_{daphnia/48h}$: 242_{24h} mg/L
$IC50_{scenedesmus\ quadricauda/72h}$: EC10/96h: 24 mg/L
Water hazard class (DE): 1 WGK No.: 0037
Storage class (VCI): 6.1 D

Chemical: *potassium cyanide* CAS No.: 151-50-8
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).
$LC50_{daphnia\ magna/48h}$: 2_{48h} ; 0.53_{24h} mg/L
$LC50_{fish/96h}$: 0.45 mg/L
$EC50_{daphnia/48h}$: 0.041 mg/L
$IC50_{scenedesmus\ quadricauda/72h}$: 0.03_{8d} mg/L
$EC10_{pseudomonas\ putita/16h}$: EC10/16h: 0.001 mg/L
Water hazard class (DE): 3 WGK No.: 338
Storage class (VCI): 6.1 B

Chemical: *Zincon* CAS No.: 62625-22-3
Water hazard class (DE): 3
Storage class (VCI): 12-13

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

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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

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: 1511 14.2 UN proper shipping name: Urea hydrogen peroxide
14.3 Class: 5.1 Additionally class: **8 _14.4 Packing group: III**
Road transport
Classification code: OC2
Limited Quantity: 5 Kg Tunnel restriction code: E
Excepted Quantity: E 1
Air transport
PAX: 559 max. weight PAX: 25 Kg
CAO: 563 max. weight CAO: 100 Kg
Maritime transport
EmS: F-A, S-Q Storage category: A

14.1 UN number: 1588 14.2 UN proper shipping name: Cyanides, inorganic, solid, n.o.s. (potassium cyanide mixture)
14.3 Class: 6.1 14.4 Packing group: II
Road transport
Classification code: T5
Limited Quantity: 500 g Tunnel restriction code: E
Excepted Quantity: E 4
Air transport
PAX: 669 max. weight PAX: 25 Kg
CAO: 676 max. weight CAO: 100 Kg
Maritime transport
EmS: F-A, S-A Storage category: A
Maritime pollutant (5.2.1.6): P (Limited Quantity (LQ) until 5 L|kg per inner package)

14.1 UN number: 2810 14.2 UN proper shipping name: Toxic liquid, organic, n.o.s. (chloral hydrate solution)
14.3 Class: 6.1 14.4 Packing group: II
Road transport
Classification code: T1
Limited Quantity: 100 mL Tunnel restriction code: E
Excepted Quantity: E 4
Air transport
PAX: 654 max. weight PAX: 5 L
CAO: 662 max. weight CAO: 60 L
Maritime transport
EmS: F-A, S-A Storage category: B

14.5 Environmental hazards

none, contains only small quantities of hazardous substances, contains only small amounts of these substances

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14.6 Special precautions for user

not necessary

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

not applicable

SECTION 15: Regulatory information

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

German act governing protection from hazardous substances (Chemicals Act / Chemikaliengesetz- ChemG), revised on August 2013
German order governing protection from hazardous substances (Ordinance on Hazardous Substances / Gefahrstoffverordnung - GefStoffV), revised on November 2010, according to Directive 98/24/EC
TRGS 200, German engineering rules governing the classification and labelling of hazardous substances, preparations and products, updated October 2011
MN Leaflet/User manual, also see www.mn-net.com
Look for your country-specific regulations.

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

H272	May intensify fire; oxidizer.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H360FD	May damage fertility. May damage the unborn child.
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.
P260D	Do not breathe vapours.
P260sh	Do not breathe dust/vapours.
P261sh	Avoid breathing dust/vapours.
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.
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.
P308+313	IF exposed or concerned: Get medical advice/attention.
P310	Immediately call a POISON CENTER/doctor.
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.

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16.4 Further information

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16.5 Sources of key data

Regulation 790/2009/EU adaptation of CLP regulation 1272/2008/EU to technical and scientific progress
Regulation 453/2010/EU REACH - REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS
Regulation 487/2013/EU, 4th adaptation of CLP regulation to technical and scientific progress
Regulation 669/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
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
Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
TRGS 905, German engineering rules governing carcinogens and mutagens, updated 03/18
KÜHN, BIRETT Merkblätter Gefährliche Arbeitsstoffe (Data Sheets of Hazardous Substances)

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

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