

Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 918131

Printing date: 03.08.2026

NANOCOLOR Cadmium, without CCl₄

Date of issue: 06.07.2023

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Version: 2.2.5.4

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

1.1 Product identifier

REF

918131

Product name

NANOCOLOR Cadmium, 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 5 g wadding

1 x 5 g Cadmium (R2)

1 x 10 g Cadmium (R4)

1 x 50 mL Cadmium (R1)

2 x 100 mL Cadmium (R3)

UFI: YDJU-33D6-E20M-V5MS

UFI: JGJU-M32K-R203-HH6U

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

Relevant identified uses

Product for analytical use.

Exposure Scenario Classification according REACH, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0

The exposure scenario is integrated into sections 1-16.

Uses advised against

not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:

MACHEREY-NAGEL GmbH & Co. KG

Valenciennner Str. 11, 52355 Düren, Germany

Phone: +49 2421 969 0

E-mail: sds@mn-net.com (msds@mn-net.com)

1.4 Emergency telephone number

Outside Germany (DE): Call your regional Poisons Information Service or call local Life Saving Service.

DE: Gemeinsames Giftinformationszentrum (GGIZ)

99089 Erfurt tel. +49 361 730 730, <<https://www.ggiz-erfurt.de>>

You find our current versions of SDS in Internet:

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

SECTION 2: Hazard identification

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



GHS05



GHS07

Signal word

DANGER

Hazard identification

H314

Hazard classes/categories

Skin Corr. 1 B

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

100 mL Cadmium (R3)



GHS05

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Signal word

DANGER

Hazard identification

Hazard classes/categories

H314

Skin Corr. 1 B

10 g Cadmium (R4)

Signal word

Do not need labelling as hazardous

No hazard class

5 g Cadmium (R2)

Signal word

Do not need labelling as hazardous

No hazard class

50 mL Cadmium (R1)



GHS07

Signal word

WARNING

Hazard identification

Hazard classes/categories

H319

Eye Irrit. 2

5 g wadding

Signal word

Do not need labelling as hazardous

No hazard class

List of H phrases: see section 16.2

2.2

Label elements according regulation (EC) 1272/2008

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

100 mL Cadmium (R3)



GHS05

Signal word: DANGER

H314

Causes severe skin burns and eye damage.

P260sh, P264, P280sh, P303+361+353, P305+351+338, P310, P405, P501

Do not breathe dust/vapours. Wash hands thoroughly after handling. Wear protective gloves/eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Store locked up. Dispose of contents/container to regulated waste treatment.

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10 g Cadmium (R4)

Do not need labelling as hazardous

Signal word: -

5 g Cadmium (R2)

Do not need labelling as hazardous

Signal word: -

50 mL Cadmium (R1)



GHS07

Signal word: WARNING

5 g wadding

Do not need labelling as hazardous

Signal word: -

Label elements of the complete product



GHS05

Signal word: DANGER

H314

Causes severe skin burns and eye damage.

P260sh, P264, P280sh, P303+361+353, P305+351+338, P310, P405, P501

Do not breathe dust/vapours. Wash hands thoroughly after handling. Wear protective gloves/eye protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. Store locked up. Dispose of contents/container to regulated waste treatment.

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.

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.

Information pertaining to particular risks to the environment

Should not be released into the environment.

PBT: not applicable

vPvB: not applicable

Possible endocrine disrupting effects

no data available

SECTION 3: Composition / information on ingredients

3.1 Substances or 3.2 Mixtures

100 mL Cadmium (R3)



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Substance name:	<i>sodium hydroxide solution</i>		
CAS No.:	1310-73-2		
Substance rating:	H314, Skin Corr. 1 B		
Formula:	NaOH·H ₂ O		
Pseudonym (de):	Natronlauge		
REACH Reg. No.:	01-2119457892-27-xxxx	Indice No.:	011-002-00-6
EC No.:	215-185-5		
Concentration:	20 - <35 %		
acc. CLP (GHS):	H314, Skin Corr. 1 B		

10 g Cadmium (R4)

Substance name:	<i>Dithizone (metal indicator)</i>		
CAS No.:	60-10-6		
Substance rating:	H315, Skin Irrit. 2, H319, Eye Irrit. 2		
Formula:	C ₁₃ H ₁₂ N ₄ S		
Pseudonym (de):	1,5-Diphenylthiocarbazon		
EC No.:	200-454-1		
Concentration:	0,1 - <1 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

Substance name:	<i>sodium chloride</i>		
CAS No.:	7647-14-5		
Substance rating:	No criteria for classification or naming of chemical not required.		
Formula:	NaCl		
Pseudonym (de):	Kochsalz		
REACH Reg. No.:	exempt, Annex V		
EC No.:	231-598-3		
Concentration:	50 - <80 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

5 g Cadmium (R2)

Substance name:	<i>Dithizone (metal indicator)</i>		
CAS No.:	60-10-6		
Substance rating:	H315, Skin Irrit. 2, H319, Eye Irrit. 2		
Formula:	C ₁₃ H ₁₂ N ₄ S		
Pseudonym (de):	1,5-Diphenylthiocarbazon		
EC No.:	200-454-1		
Concentration:	0,1 - <1 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

Substance name:	<i>sodium chloride</i>		
CAS No.:	7647-14-5		
Substance rating:	No criteria for classification or naming of chemical not required.		
Formula:	NaCl		
Pseudonym (de):	Kochsalz		
REACH Reg. No.:	exempt, Annex V		
EC No.:	231-598-3		
Concentration:	50 - <80 %		
acc. CLP (GHS):	The criteria for classification are not fulfilled.		

50 mL Cadmium (R1)



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Substance name: *citric acid*
CAS No.: 77-92-9
Substance rating: H319, Eye Irrit. 2, H335, resp. irrit. STOT SE 3
Formula: C₆H₈O₇
Pseudonym (de): Zitronensäure
REACH Reg. No.: 01-2119457026-42-xxxx
EC No.: 201-069-1
Concentration: 10 - <20 %
acc. CLP (GHS): H319, Eye Irrit. 2

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 16.2.

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.

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. ---

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

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 to 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. ---

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

Formation of hazardous and caustic vapour-air mixtures possible.

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5.3 Advice for firefighters

No, for listed product. Product package burns like paper or plastic. Spray any vapours released with water. Retent fire water. Use only acid-resistant safety equipment.

For great amount - if necessary - protective breathing apparatus which is independent of the ambient air (isolated equipment), and sealed protective clothing is necessary in the event of a large-scale formation of toxic substances.

5.4 Additional information

Danger for environment **only in the event of a large-scale leakage** or formation of hazardous substances.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Do not breathe vapours. Wear suitable protective gloves (see 8.2.2). Wear eye protection, respectively face protection. Regular staff training is necessary, indicating hazards and precautions on the basis of operating instructions. Restrictions on activity must be observed.

6.2 Environmental precautions

Should not be released into the environment.

PBT: not applicable

vPvB: not applicable

6.3 Methods and material for containment and cleaning up

Bind any escaping liquid with inert absorbent. And dispose in accordance to local regulations for the disposal of hazardous chemicals.

Clean any contaminated equipment and floors with plenty of water.

Collect small amounts of leaked liquid and flush with water into drains.

6.4 Reference to other sections

see information in section 5.4, 7, 8 and 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Handling in accordance with the test instruction, that comes with the product.

7.2 Conditions for safe storage, including any incompatibilities

Safe storage is guaranteed in the original packaging from MACHEREY-NAGEL. Storage class (German chemical industry): see chapter 12.1

Storage class (VCI): 8B

Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage. 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

100 mL Cadmium (R3)

Chemical: sodium hydroxide solution

CAS No.: 1310-73-2

DNEL: [inh] 1 mg/m³

DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): 2 mg/m³
E/e respirable

Short-term exposure factor: (=1=, Y)

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

SUVA(CH) MAK value: 2 e mg/m³

NIOSH: 2 mg/m³

[TWA] Time-weighted average to a reference period of 8 hours, [STEL] Short-term exposure limit related to a 15-minute period

OSHA: [TWA] 2 mg/m³

50 mL Cadmium (R1)



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Chemical: *citric acid* CAS No.: 77-92-9
PNEC (fresh water): 440 mg/L
PNEC = Predicted No Effect Concentration
TRGS 900 (DE): 2 E 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

10 g Cadmium (R4)

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

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

5 g Cadmium (R2)

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

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

8.2 Exposure controls

Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities. The highest level of cleanliness must be maintained at the workplace.

8.2.1 Respiratory protection

No additional recommendations.

8.2.2 Skin protection / Hand protection

Yes, gloves according EN 374 (permeation time >30 min - level 2), consist of PVC, natural latex, Neopren, or Nitril (f.ex. from Ansell or KCL). Use for short times chemical resistant latex gloves with code EN 374-3 level 1.

8.2.3 Eye / Face Protection

Yes, safety glasses according EN 166 with integrated side shields or wrap-around protection or face protection.

8.2.4 Skin protection

Recommended to avoid clothing damage, and to avoid contamination with these hazards.

8.2.5 Personal hygiene

Eating, drinking, smoking, taking snuff and storage of food in work areas and at outdoor workplaces is prohibited. Avoid contact with the skin, eyes and clothing. Rinse any clothing on which the substance has been spilled, and soak it in water. Wash hands thoroughly with soap and water when stopping work and before eating, and then apply protective skin cream.

8.2.6 Thermal hazards

no data available

8.3 Limitation and monitoring of environmental exposure

Do not release product into environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

100 mL Cadmium (R3)

a) State of aggregation: liquid
b) Colour: colourless
c) Odor: odorless
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: 14
l) Kinematic viscosity: no data available
m) Solubility in water: 0-100 %
n) Dispersion coefficient (K_{ow}): no data available
o) Vapour pressure (20°C): no data available
p) Specific gravity: 1,31 g/cm³
q) Relative vapour density (air=1): no data available
r) Particle size: no data available

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50 mL Cadmium (R1)

a) State of aggregation:	liquid
b) Colour:	colourless
c) Odor:	odorless
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:	< 2
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (K _{ow}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	no data available
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

10 g Cadmium (R4)

a) State of aggregation:	powder (solid)
b) Colour:	green
c) Odor:	odorless
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:	6-8
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (K _{ow}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	no data available
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

5 g Cadmium (R2)

a) State of aggregation:	powder (solid)
b) Colour:	green
c) Odor:	odorless
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:	6-8
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (K _{ow}):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	no data available
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

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9.2 Other information

9.2.1 Information on physical hazard classes

no data available

9.2.2 Other safety-related parameters

No data is available for the other parameters for the mixtures, since no registration and no chemical safety report is required.

□□

Substances are highly corrosive.

SECTION 10: Stability and reactivity

10.1 Reactivity

no further data available.

10.2 Chemical stability

no known instability.

10.3 Possibility of hazardous reactions

Can react violently with organic material. 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.

100 mL Cadmium (R3)

Chemical: *sodium hydroxide solution*

CAS No.: 1310-73-2

TSCA Inventory: listed California Proposition 65 List: not listed

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

Target Organs: Eyes, skin, respiratory system

Symptoms: irritation eyes, skin, mucous membrane; pneumonitis; eye, skin burns; temporary loss of hair

Australia NICNAS: not listed Canada CEPA 1999: DSL Yes

Japan CSCL/PRTR: not listed, Japan PDSCL: not listed

Japan ISHL: listed ≥1,0%/≥1,0%, Article 57-2 (SDS required)

South Korea TCCA: not listed

Korea Exist.Chem.Inventory: KE-31487

LD50 orl rat : [40%] 1250 / [<25%] >2000 mg/kg

LD50 orl mus : 40 mg/kg

50 mL Cadmium (R1)

Chemical: *citric acid*

CAS No.: 77-92-9

TSCA Inventory: listed

Korea Exist.Chem.Inventory: KE-20831

LD50 orl rat : > 3000 mg/kg

LC50 ihl rat : 5,800 mg/L

LD50 orl mus : 5400 mg/kg

LD50 scu rat : 5500 mg/kg

10 g Cadmium (R4)

Chemical: *sodium chloride*

CAS No.: 7647-14-5

TSCA Inventory: listed

Korea Exist.Chem.Inventory: KE-31387

LD50 orl rat : 3000 mg/kg



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Chemical: *Dithizone (metal indicator)*
TSCA Inventory: listed
LD50 orl rat : > 500 mg/kg

CAS No.: 60-10-6

5 g Cadmium (R2)

Chemical: *sodium chloride*
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-31387
LD50 orl rat : 3000 mg/kg

CAS No.: 7647-14-5

Chemical: *Dithizone (metal indicator)*
TSCA Inventory: listed
LD50 orl rat : > 500 mg/kg

CAS No.: 60-10-6

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.

100 mL Cadmium (R3)

Substance name: *sodium hydroxide solution*
Do not release into the environment.
LC50 leuciscus idus/96h : 35-189 mg/L
LC50 fish/96h : 45.4 mg/L
EC50 daphnia/48h : >100 mg/L
Water hazard class (DE): 1 WGK No.: 142
Storage class (VCI): 8 B

CAS-Nr.: 1310-73-2

50 mL Cadmium (R1)

Substance name: *citric acid*
PNEC (fresh water) : 440 mg/L
PNEC = Predicted No Effect Concentration = concentration at which no effect on the environment is expected
LC50 leuciscus idus/96h : 440-760 mg/L
EC50 daphnia/48h : 1535 24h mg/L
IC50 scenedesmus quadricauda/72h : 7d: 425-640 mg/L
EC10 pseudomonas putida/16h : EC0: >10 g/L
Water hazard class (DE): 1 WGK No.: 0057
Storage class (VCI): 13

CAS-Nr.: 77-92-9

10 g Cadmium (R4)

Substance name: *sodium chloride*
Water hazard class (DE): 1
Storage class (VCI): 12-13

CAS-Nr.: 7647-14-5

Substance name: *Dithizone (metal indicator)*
Water hazard class (DE): 3

CAS-Nr.: 60-10-6

5 g Cadmium (R2)

Substance name: *sodium chloride*
Water hazard class (DE): 1
Storage class (VCI): 12-13

CAS-Nr.: 7647-14-5



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Substance name: *Dithizone (metal indicator)*
Water hazard class (DE): 3

CAS-Nr.: 60-10-6

12.2 Persistence and degradability

12.3 Bioaccumulative potential

50 mL Cadmium (R1)

Substance name:

Dispersion coefficient (K_{ow}):

citric acid

-1,72

CAS-Nr.: 77-92-9

12.4 Mobility in soil

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

no data available

12.7 Other adverse effects

no additional data available

SECTION 13: Disposal considerations

Please observe local regulations for collection and disposal of hazardous waste and contact waste disposal company, where you will obtain information on laboratory waste disposal (waste code number 16 05 06).

13.1 Waste treatment methods

Normally it is possible to empty small amounts (diluted!) into drains. Empty containers of corrosive reagents prior to disposal, rinse with water.

SECTION 14: Transport information

14.1. UN number: 3316

14.2. UN proper shipping name: Chemical Kit

14.3. Class: 9

14.4. Packing group: II

Road transport ADR

Classification code: M11 Tunnel restriction code: E

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

Air transport IATA DGR

Limited Quantity: PAX: 960 max. quantity PAX: 10 KG

CAO: 960 max. quantity CAO: 10 KG

Maritime transport IMDG

EmS: F-A, S-P Staukategorie: A

Or use Alternative declaration for transportation:

14.1 UN number: 3266

14.2 UN proper shipping name: Corrosive liquid, basic, inorganic, n.o.s. (sodium hydroxide solution)

14.3 Class: 8

14.4 Packing group: II

Road transport ADR

Classification code: C5

Limited Quantity: 1 L

Excepted Quantity: E 2

Tunnel restriction code: E

Air transport IATA DGR

Limited Quantity: PAX: 851 max. quantity PAX: 1 L

CAO: 855 max. quantity CAO: 30 L

Excepted Quantity: E 2

Maritime transport IMDG



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EmS:

F-A, S-B

Staukategorie:

B

Special instructions:

274

14.5 Environmental hazards

none, contains only small quantities of hazardous substances

14.6 Special precautions for user

not necessary

14.7 Carriage in bulk by sea in accordance with IMO instruments

Not applicable.

SECTION 15: Regulatory information

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

Dangerous Substances Protection Act (DE: Chemikaliengesetz - ChemG), Aug 2013, Stand: Okt 2020
Ordinance on protection against dangerous substances (E: Gefahrstoffverordnung - GefStoffV), Nov 2010, Stand: Mrz 2017
TRGS 201, Classification and labeling of activities involving hazardous substances, Feb 2017
TRGS 220, National aspects when preparing safety data sheets, Jan 2017
TRGS 400, Risk assessment for activities involving hazardous substances, Jul 2017
TRGS 401, Skin contact hazard - identification, assessment, action, Jun 2008, status: Feb 2011
BekGS 408, Application of the GefStoffV and the TRGS with the entry into force of the CLP regulation, December 2009, status: Jan 2012
TRGS 500, Protective measures, Mai 2008
TRGS 510, Storage of hazardous substances in portable containers from March 2013, status: Oct 2015
Chapter 4, Measures when storing hazardous substances up to 50 kg (small quantity regulation)
Wasserhaushaltsgesetz - WHG, Section 3 Handling substances hazardous to water, Jul 2009, status: Aug 2016
MN leaflet/instructions for use, also at www.mn-net.com
If necessary, observe other country-specific regulations.

15.2 Chemical safety assessment

no data available

SECTION 16: Other information

16.1 Changes compared to the last version

Between versions 2.2.5.4 and 2.2.2.2 following changes were applied: - 3 composition data corrected - 2 substance data corrected

16.2 List of H and P phrases

16.2.1 List of relevant H phrases

H Between versions 2.2.5.4 and 2.2.2.2 following changes were applied: - 3 composition data corrected - 2 substance data corrected
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.

16.2.2 List of relevant P phrases

P260sh Do not breathe dust/vapours.
P264 Wash hands thoroughly after handling.
P280sh Wear protective gloves/eye protection.
P303+361+353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P405 Store locked up.
P501 Dispose of contents/container to regulated waste treatment.

16.3 Recommended restriction on use

Only for professional user.
Look about employee restrictions for young people (f. ex. 94/33/EC or DE § 22 JArbSchG)!
Look about employee restrictions for pregnant women and nursing women (f.ex. 92/85/EEC or for DE §§ 11-13 MuSchG 2017)!
An individual package of this product or test kit has a moderate hazardous potential.

16.4 Sources of key data

KÜHN, BIRETT, Leaflets on hazardous materials, 2021
Directive 1999/92/EG Minimum requirements to improve the safety and health protection of workers at risk from potentially explosive atmospheres
SUVA .CH, limit values in the air at work 2009, revised on 01/2009



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Regulation 790/2009/EU, adaptation of Regulation 1272/2008/EU to technical and scientific progress (1st ATP)
 Regulation 453/2010/EU, adaptation of the REACH regulation 1907/2006/EG
 Regulation 487/2013/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (4th ATP)
 Regulation 1221/2015/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (7th ATP)
 Regulation 776/2017/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (10th ATP)

Regulation 669/2018/EU, adaptation of Regulation 1272/2008/EC to technical and scientific progressText (11th ATP)
 Regulation 1480/2018/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (13th ATP)
 Regulation 521/2019/EU, adaptation of regulation 1272/2008/EG to technical and scientific progress (12th ATP)
 TRGS 900, German rules of technology on limit values in the air at work, as of 03/2019
 Regulation 217/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (14th ATP)
 Regulation 878/2020/EU, adaptation of Annex II of the REACH regulation 1907/2006/EG
 Regulation 1182/2020/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (15th ATP)
 Regulation 643/2021/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (16th ATP)
 Regulation 849/2021/EU, adaptation of Annex VI, Part 3, of Regulation 1272/2008/EC to technical and scientific progress (17th ATP)
 Regulation 692/2022/EU, adaptation of Annex VI, Part 1, of Regulation 1272/2008/EC to technical and scientific progress (18th ATP)

revisions/updates

Reason for revision: 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary
 2014-04 adjustment according Regulation 487/2013/EU
 2016-03 adjustment according Regulation 1221/2015/EU
 2017-11 adjustment according the ECHA registration dossier
 2022-11 adjustment according Regulation 878/2020/EU

16.5 Further information

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16.6 Legend / Abbreviations

acc: according
 ADR: Convention concerning the International Carriage of Dangerous Goods by Road
 Act: acute
 BAT: biological workplace tolerance value
 CAO: Cargo Aircraft Only
 Carc: carcinogen
 CAS: Chemical Abstracts Service
 CLP: Classification, Labelling and Packaging regulation
 CMR: carcinogen, mutagen, reproduction toxic
 Corr: corrosive
 COD: chemical oxygen demand
 CSCL: Chemical Substance Control Law (Jp)
 Dam: damage
 DNEL: Derived No-Effect Level (for workers)
 derm: dermal
 dog: dog
 EC10: Concentration causing a toxic effect in 10% of the test organisms
 EC: European Community
 EC-Nr: Substance number of the EC substance inventory
 EmS: Guide to accident management measures on ships
 EU: European Union
 fish: fish (not specified)
 GHS: Global Harmonized System of Classification and Labeling of Chemicals
 gpg: guinea pig
 ICAO: International Civil Aviation Organization
 ihl: inhaled
 IMDG: International Maritime Dangerous Goods Code
 intrav: intravenous
 ipt: intraperitoneal
 ISHL: Industrial Safety and Health Law (Jp)
 LC50: letale concentration 50%
 LD50: letale dosis 50%



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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.