Safety Data Sheet

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

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

1.1 Product identifier

REF 931298
Product name VISOCOLOR ECO Zinc, refill pack

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

1 x 16 mL Zn-1
1 x 12 mL Zn-2
1 x 27 mL Zn-3

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

Relevant identified uses
Product for analytical use.
Exposure Scenario Classification according REACh, RIP 3.2 Codes: SU 0-2, PC 21, PROC 15, AC 0
The exposure scenario is integrated into sections 1-16.
Uses advised against
not described

1.3 Details of the supplier of the safety data sheet

Manufactured by:
MACHEREY-NAGEL GmbH & Co. KG
Valencienner Str. 11, 52355 Düren, GERMANY
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



GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
EUH031	031 not defined
H302	Acute Tox. 4 oral
H312	Acute Tox. 4 derm.
H315	Skin Irrit. 2
H319	Eye Irrit. 2
H332	Acute Tox. 4 inh.
H360FD	Repr. 1B

2.1 Classification of the substance or mixture

16 mL Zn-1

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GHS07 GHS08

Signal word DANGER

Hazard identification	Hazard classes/categories
EUH031	031 not defined
H302	Acute Tox. 4 oral
H312	Acute Tox. 4 derm.
H332	Acute Tox. 4 inh.
H360FD	Repr. 1B

12 mL Zn-2

Do not need labelling as hazardous

Signal word -

No hazard class

27 mL Zn-3



GHS07

Signal word WARNING

Hazard identification	Hazard classes/categories
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H319	Eye Irrit. 2

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).

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).

16 mL Zn-1



GHS07 GHS08

Signal word: DANGER

H360FD
May damage fertility. May damage the unborn child.

P201, P280sh, P308+313, P405
Obtain special instructions before use. Wear protective gloves/eye protection. IF exposed or concerned: Get medical advice/attention. Store locked up.

12 mL Zn-2

Do not need labelling as hazardous
Signal word: -

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27 mL Zn-3



GHS07

Signal word: WARNING

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. ---

Information pertaining to particular risks to human and possible symptoms
Cause after oral intake, 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
PBT: not applicable
vPvB: not applicable

Other hazards

SECTION 3: Composition/information on ingredients

3.1 Substances or 3.2 Mixtures

16 mL Zn-1

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: 1 - <4.5 % 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): 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: 0.1 - <1 % 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): H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm., H332, Acute Tox. 4 inh., EUH031, 031 not defined

12 mL Zn-2

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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Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5
Classification: No criteria for classification or naming of chemical not required.
Formula: $C_2 H_6 OS$
Pseudonym: DMSO, 1,1'-sulfinylbis-methane
TSCA Inventory: listed
REACH Reg. No.: 01-2119431362-50-xxxx
EC No.: 200-664-3
RTECS: PV6210000 MFCD: 00002089
KE No.: KE-32367
Concentration: 80 - <100 %
acc. CLP (GHS): The criteria for classification are not fulfilled.

27 mL Zn-3

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: 10 - <20 %
acc. CLP (GHS): H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H319, Eye Irrit. 2

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.

4.1.1 After SKIN Contact
Remove contaminated clothing. Rinse the affected skin or mucous membrane thoroughly under running water. (If possible) use soap.

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. ---

4.1.4 After ORAL Intake
After oral intake lots of water should be drunk after it has been ingested. ---

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of any immediate medical attention and special treatment needed

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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. ---

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5.3 Advice for firefighters

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

5.4 Additional information

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). 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

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

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

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

Storage class (VCI): 6.1B
Water hazard class (DE): 3

7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage, so that they are not immediately accessible to outside parties.

7.3 Specific end use(s)

Product for analytical use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

16 mL Zn-1

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

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12 mL Zn-2
Chemical: *Zincon* CAS No.: 62625-22-3

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5
DNEL: 394_{inh} mg/m³
DNEL = Derived No-Effect Level (for workers)
$PNEC_{(fresh\ water)}$: 17 mg/L
PNEC = Predicted No Effected Concentration
TRGS 900 (DE): 50 ppm / 160 mg/m³
E/e respirable
Short-term exposure factor: 2 (I), H, Z
skin resorptive (H), respiratory sensitizable (Sa), skin sensitizable (Sh), teratogenic (Z) not securely excluded / (Y) certainly excluded
SUVA(CH) MAK value: 50 ppm / 160 mg/m³

27 mL Zn-3
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

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 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

16 mL Zn-1

Appearance: liquid	Colour: colourless	Odor: bitter almond
pH:	10,5-11,5	

12 mL Zn-2

Appearance: liquid	Colour: slightly yellow
Odor:	fusty, mouldy
pH:	7
Melting point:	18 °C
Boiling point:	189 °C
Flash point:	87 (95) °C
Explosion limits:	1.8 ...63 g/m³
Vapour pressure (20°C):	0.6
$Vapour\ density_{(air=1)}$:	2,7
Specific gravity:	1,10 g/cm3
Solubility in water:	0-100 %
Flashing temperature:	270...300 °C
Volatiles by volume:	2600

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27 mL Zn-3
Appearance: liquid | Colour: colourless | Odor: chloric
pH: 5-6

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

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

10.4 Conditions to avoid

Not necessary. ---

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.

16 mL Zn-1

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
$LD50_{drm\ rbt}$: 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 after oral intake, inhalation of vapours/dust, skin contact, impairments of health when ingested in small quantities.
TRGS 905 (DE): R_F C

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12 mL Zn-2

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

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5
TSCA Inventory: listed
Korea Exist.Chem.Inventory: KE-32367
$LD50_{orl\ rat}$: 14.5 g/kg
$LD50_{drm\ rat}$: 40 g/kg

27 mL Zn-3

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 after oral intake, impairments of health when ingested in small quantities.

SECTION 12: Ecological information

12.1 Toxicity

Following information is valid for pure substances.

16 mL Zn-1

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
$LC50_{daphnia\ magna/48h}$: 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

12 mL Zn-2

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

Chemical: *dimethyl sulfoxide* CAS No.: 67-68-5
$PNEC_{(fresh\ water)}$: 17 mg/L
PNEC = Predicted No Effected Concentration
$LC50_{fish/96h}$: 38.5 g/L
$EC50_{daphnia/48h}$: 24.6 g/L
$EC10_{pseudomonas\ putita/16h}$: EC/16h: 7100 mg/L
Water hazard class (DE): 1 WGK No.: 5050
$Dispersion\ coefficient_{(octanol-water)}$: -1.35
Storage class (VCI): 12

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27 mL Zn-3
Chemical: *chloral hydrate* CAS No.: 302-17-0
Water hazard class (DE): 2 WGK No.: 0051
Storage class (VCI): 6.1 D

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 - 14.4: No dangerous goods according the transport regulations

14.5 Environmental hazards
none, contains only small quantities of hazardous substances

14.6 Special precautions for user
not necessary

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
not applicable

SECTION 15: Regulatory information

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

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

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H332	Harmful if inhaled.
H360FD	May damage fertility. May damage the unborn child.
EUH031	Contact with acids liberates toxic gas.

16.1.2 List of relevant P phrases

P201	Obtain special instructions before use.
P260D	Do not breathe vapours.
P261sh	Avoid breathing dust/vapours.
P264W	Wash with water thoroughly after handling.
P280sh	Wear protective gloves/eye protection.
P301+312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302+352	IF ON SKIN: Wash with plenty of water.
P308+313	IF exposed or concerned: Get medical advice/attention.
P330	Rinse mouth.
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 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
Regulation 1480/2018/EU, 4th adaptation of CLP regulation to technical and scientific progress
Regulation 849/2021/EU, 4th adaptation of CLP regulation to technical and scientific progress
TRGS 900, German engineering rules governing limits in air at work, updated 03/2019
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)

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