

# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

REF: 920015

VISOCOLOR HE Chlorine

Page: 1/11

Printing date: 20.07.2023

Date of issue: 27.06.2023

Version: 2.3.3.4

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

### 1.1 Product identifier

REF 920015  
Product name VISOCOLOR HE Chlorine

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 24 g Cl<sub>2</sub>-1  
1 x 100 mL Cl<sub>2</sub>-2  
1 x 30 mL Cl<sub>2</sub>-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  
Valenciener Str. 11, 52355 Düren, Germany  
Phone: +49 2421 969 0

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

### 1.4 Emergency telephone number

Information not necessary.

You find our current versions of SDS in Internet:

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

Lieferant / supplier:  
Carl Roth GmbH + Co KG  
Schoemperlenstr. 3-5  
76105 Karlsruhe, Germany  
+49 721 5606 0  
[sicherheit@carlroth.de](mailto:sicherheit@carlroth.de)

## SECTION 2: Hazard identification

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

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

24 g Cl<sub>2</sub>-1

Signal word Do not need labelling as hazardous  
-

No hazard class

30 mL Cl<sub>2</sub>-3

Signal word Do not need labelling as hazardous  
-

No hazard class

100 mL Cl<sub>2</sub>-2

Signal word Do not need labelling as hazardous  
-

No hazard class



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List of H phrases: see section 16.2

## 2.2 Label elements according regulation (EC) 1272/2008

### 24 g Cl<sub>2</sub>-1

Do not need labelling as hazardous  
Signal word: -

### 30 mL Cl<sub>2</sub>-3

Do not need labelling as hazardous  
Signal word: -

### 100 mL Cl<sub>2</sub>-2

Do not need labelling as hazardous  
Signal word: -

## Label elements of the complete product

## 2.3 Other hazards

### Possible hazards from physicochemical properties

According to our current status of knowledge and experience we state, that this product does not contain any substances, which - in accordance with EC regulations 1272/2008/EC, 1907/2006/EC and German Regulations for Hazardous goods - have to be declared as dangerous goods, either because of their applied concentration or because of their total amount in anyone kit. An individual package has considerably less hazardous potential.

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

### Information pertaining to particular risks to the environment

### Possible endocrine disrupting effects

no data available

## SECTION 3: Composition / information on ingredients

### 3.1 Substances or 3.2 Mixtures

#### 30 mL Cl<sub>2</sub>-3

Substance name: *water*  
CAS No.: 7732-18-5

Substance rating: No criteria for classification or naming of chemical not required.  
Formula: H<sub>2</sub>O  
REACH Reg. No.: exempt, Annex IV  
EC No.: 231-791-2  
Concentration: 90 - <100 %  
acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: *potassium iodide*  
CAS No.: 7681-11-0

Substance rating: H319, Eye Irrit. 2  
Formula: KI  
Pseudonym (de): Iodkalium  
REACH Reg. No.: YES, confidential  
EC No.: 231-659-4  
Concentration: 1 - <10 %  
acc. CLP (GHS): The criteria for classification are not fulfilled.

#### 24 g Cl<sub>2</sub>-1



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Substance name: *potassium dihydrogen phosphate*  
 CAS No.: 7778-77-0

Substance rating: No criteria for classification or naming of chemical not required.  
 Formula:  $\text{KH}_2\text{PO}_4$   
 Pseudonym (de): prim-K-phosphat  
 REACH Reg. No.: 01-2119490224-41-XXXX  
 EC No.: 231-913-4  
 Concentration: 5 - <25 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Substance name: *N,N-Diethyl-1,4-phenylene diammonium sulfate*  
 CAS No.: 6283-63-2

Substance rating: H302, Acute Tox. 4 oral, H312, Acute Tox. 4 derm.  
 Formula:  $\text{C}_{10}\text{H}_{16}\text{N}_2 \cdot \text{H}_2\text{O}$   
 Pseudonym (de): DPD, 4-Amino-N,N-diethylanilin  
 EC No.: 228-500-6  
 Concentration: 1 - <5 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

Indice No.: 612-080-00-X

Substance name: *trisodium citrate dihydrate*  
 CAS No.: 6132-04-3

Substance rating: No criteria for classification or naming of chemical not required.  
 Formula:  $\text{C}_6\text{H}_5\text{Na}_3\text{O}_7 \cdot 2\text{H}_2\text{O}$   
 Pseudonym (de): Na-citrat, E331  
 REACH Reg. No.: 01-2119457027-40-xxxx  
 EC No.: 612-118-5  
 Concentration: 60 - <80 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

**100 mL Cl<sub>2</sub>-2**

Substance name: *phosphate buffer solution*  
 CAS No.: -

Substance rating: No criteria for classification or naming of chemical not required.  
 Formula:  $\text{K/Na}_{1-3} \text{H}_{2-0} \text{PO}_4 \cdot x \text{H}_2\text{O}$   
 Concentration: 5 - <20 %  
 acc. CLP (GHS): The criteria for classification are not fulfilled.

### 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.

- 4.1.1 **After SKIN Contact**  
Not necessary.
- 4.1.2 **After EYE Contact**  
Not necessary.
- 4.1.3 **After INHALATION of vapours**  
Not necessary. ---
- 4.1.4 **After ORAL Intake**  
Not necessary.

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



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

No additionally recommendations. ---

## 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. 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

None.

### 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. Not necessary.

### 6.2 Environmental precautions

not necessary

### 6.3 Methods and material for containment and cleaning up

Clean working area with water. Flush used 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

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

Storage class (VCI): 12

Water hazard class (DE): 3

#### 7.2.1 Requirements for stock rooms and containers

Keep original product packages tightly closed during handling and storage.

### 7.3 Specific end use(s)

Product for analytical use.

## SECTION 8: Exposure controls /personal protection

### 8.1 Control parameters

30 mL Cl<sub>2</sub>-3



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Chemical:	<i>water</i>	CAS No.: 7732-18-5
Chemical:	<i>potassium iodide</i>	CAS No.: 7681-11-0
<b>24 g Cl<sub>2</sub>-1</b>		
Chemical:	<i>potassium dihydrogen phosphate</i>	CAS No.: 7778-77-0
Chemical:	<i>N,N-Diethyl-1,4-phenylene diammonium sulfate</i>	CAS No.: 6283-63-2
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	
Chemical:	<i>trisodium citrate dihydrate</i>	CAS No.: 6132-04-3
<b>100 mL Cl<sub>2</sub>-2</b>		
Chemical:	<i>phosphate buffer solution</i>	CAS No.: -

## 8.2 Exposure controls

Not necessary. Good ventilation and extraction system in the room, floor resistant to chemicals with floor drainage and washing facilities.

### 8.2.1 Respiratory protection

Not necessary.

### 8.2.2 Skin protection / Hand protection

Not necessary.

### 8.2.3 Eye / Face Protection

Not necessary.

### 8.2.4 Skin protection

Not necessary.

### 8.2.5 Personal hygiene

Information not necessary.

### 8.2.6 Thermal hazards

no data available

## 8.3 Limitation and monitoring of environmental exposure

Information not necessary.

# SECTION 9: Physical and chemical properties

## 9.1 Information on basic physical and chemical properties

### 30 mL Cl<sub>2</sub>-3

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:	N/A
i) Flashing temperature:	no data available
j) Decomposition temperature:	no data available
k) pH value:	no data available
l) Kinematic viscosity:	no data available
m) Solubility in water:	no data available
n) Dispersion coefficient (o/w):	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1.0 g/cm <sup>3</sup>
q) Relative vapour density (air=1):	no data available
r) Particle size:	no data available

### 24 g Cl<sub>2</sub>-1



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a) State of aggregation:	powder (solid)
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:	6
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	no data available
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

### 100 mL Cl<sub>2</sub>-2

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:	6-7
l) Kinematic viscosity:	no data available
m) Solubility in water:	0-100 %
n) Dispersion coefficient (o/w) :	no data available
o) Vapour pressure (20°C):	no data available
p) Specific gravity:	1,02 g/cm <sup>3</sup>
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

## 9.2 Other information

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

**Properties relevant to substance groups**

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None

### 10.2 Chemical stability

no known instability.

### 10.3 Possibility of hazardous reactions

None.

### 10.4 Conditions to avoid

Not known.

### 10.5 Incompatible materials

Not known.



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## 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.

#### 30 mL Cl<sub>2</sub>-3

Chemical: *water* CAS No.: 7732-18-5  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-35400  
 LD50 orl rat : > 90000 mg/kg

Chemical: *potassium iodide* CAS No.: 7681-11-0  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: not listed  
 LD50 orl rat : 2779 mg/kg

#### 24 g Cl<sub>2</sub>-1

Chemical: *potassium dihydrogen phosphate* CAS No.: 7778-77-0  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-28622  
 LD50 orl rat : 4640 mg/kg

Chemical: *N,N-Diethyl-1,4-phenylene diammonium sulfate* CAS No.: 6283-63-2  
 TSCA Inventory: listed (CAS 6065-27-6) California Proposition 65 List: not listed  
 Australia NICNAS: not listed Canada CEPA 1999: not listed  
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed  
 Japan ISHL: not listed  
 South Korea TCCA: not listed  
 LD50 orl rat : 497 mg/kg

Chemical: *trisodium citrate dihydrate* CAS No.: 6132-04-3  
 TSCA Inventory: listed (CAS 68-04-2)  
 Korea Exist.Chem.Inventory: KE-20843  
 LD50 orl rat : > 8000 mg/kg

#### 100 mL Cl<sub>2</sub>-2

Chemical: *phosphate buffer solution* CAS No.: -  
 TSCA Inventory: all listed  
 Korea Exist.Chem.Inventory: listed

### 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.

#### 30 mL Cl<sub>2</sub>-3

Chemical: *water* CAS No.: 7732-18-5



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Chemical: *potassium iodide* CAS No.: 7681-11-0  
 LC50<sub>fish/96h</sub>: 2190 mg/L  
 Water hazard class (DE): 1  
 Dispersion coefficient (o/w): 0,04  
 Storage class (VCI): 12-13

**24 g Cl<sub>2</sub>-1**  
 Chemical: *potassium dihydrogen phosphate* CAS No.: 7778-77-0  
 LC50<sub>leuciscus idus/96h</sub>: 900 48h mg/L  
 Water hazard class (DE): 1  
 Storage class (VCI): 12-13

Chemical: *N,N-Diethyl-1,4-phenylene diammonium sulfate* CAS No.: 6283-63-2  
 Water hazard class (DE): 3  
 Storage class (VCI): 12-13

Chemical: *trisodium citrate dihydrate* CAS No.: 6132-04-3  
 LC50<sub>fish/96h</sub>: 18-32 g/L  
 EC50<sub>daphnia/48h</sub>: 5.6-10 g/L  
 EC50<sub>chlorella vulgaris/5d</sub>: >18-32 g/L  
 EC10<sub>pseudomonas putida/16h</sub>: EC50<sub>ps. fluorescens/8h</sub>: >1.8-3.2 g/L  
 Water hazard class (DE): 1  
 Storage class (VCI): 12-13

**100 mL Cl<sub>2</sub>-2**  
 Chemical: *phosphate buffer solution* CAS No.: -  
 Water hazard class (DE): 1  
 Storage class (VCI): 12

## 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

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

Not necessary.

### 13.1 Waste treatment methods

GENERAL: Empty solids into municipal waste, empty liquids diluted into drains. Normally it is possible to empty small amounts (diluted!) into drains.

## SECTION 14: Transport information

14.1 - 14.4: No dangerous goods according to the transport regulations

### 14.5 Environmental hazards

none





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## 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  
 MN leaflet/instructions for use, also at [www.mn-net.com](http://www.mn-net.com)  
 If necessary, observe other country-specific regulations.

### 15.2 Chemical safety assessment

## SECTION 16: Other information

### 16.1 Changes compared to the last version

Between versions 2.3.3.4 and 2.2.2.2 following changes were applied: - 1 product component data corrected - 1 composition data corrected - 2 substance data corrected

### 16.2 List of H and P phrases

#### 16.2.1 List of relevant H phrases

#### 16.2.2 List of relevant P phrases

### 16.3 Recommended restriction on use

None

### 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  
 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 progress (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 oxigen 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 spezified)
- 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%
- 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: fisch, 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: fisch, 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
- rbt: 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



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# Safety Data Sheet

according to Regulations REACH 1907/2006/EC

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- RIP: REACH Implementations Projects
- scu: sub cutan
- SDS: safety data sheet
- Sens: sensitisation
- STEL: short term exposure limit
- STOT: Specific Target Organ Toxicity
- SVHC: Substance of Very High Concern
- t/a: tons per year
- TCCA: Toxic Chemicals Control Act (S. Korea)
- Tox: toxic
- TSCA: The Toxic Substances Control Act (US)
- TWA: time weighted average
- TRGS: technical regulations (DE)
- vPvB: very persistent, very bioaccumulating substance

## 16.7 Training advice

Regular safety training. Multiple safety training of staffs about danger and protection by using hazards in working area. Additionally training and introduction of staffs for using these products.



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