

# Safety Data Sheet

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

REF: 918978	NANOCOLOR NanOx Metal	Page: 1/11
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## SECTION 1: Identification of the substance/mixture and of the company

### 1.1 Product identifier

REF 918978  
 no data available NANOCOLOR NanOx Metal  
 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 30 g NanOx Metal Decomposition reagent (AR) UFI: KWCU-Q36S-T20X-HAAN  
 1 x 30 g NanOx Metal Neutralisation reagent (NR)

### 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  
 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:

<<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

## SECTION 2: Hazard identification

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



Signal word	DANGER
<b>Hazard identification</b>	<b>Hazard classes/categories</b>
H272	Ox. Liq. 2
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H317	Skin Sens. 1
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H335	STOT SE 3

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

30 g NanOx Metal Neutralisation reagent (NR)

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



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## 30 g NanOx Metal Decomposition reagent (AR)



GHS03 GHS07 GHS08

Signal word

DANGER

Hazard identification	Hazard classes/categories
H272	Ox. Liq. 2
H302	Acute Tox. 4 oral
H315	Skin Irrit. 2
H317	Skin Sens. 1
H319	Eye Irrit. 2
H334	Resp. Sens. 1
H335	STOT SE 3

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). This labelling exemption is NOT valid for sensitizing substances. Oxidizing mixtures with signal word: **DANGER** and **H272** must not be labelled with H and P phrases **until 125 mL**.

### 30 g NanOx Metal Neutralisation reagent (NR)

Do not need labelling as hazardous

Signal word: -

### 30 g NanOx Metal Decomposition reagent (AR)



GHS03 GHS07 GHS08

Signal word: DANGER

H317, H334

May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P261sh, P280sh, P342+311

Avoid breathing dust/vapours. Wear protective gloves/eye protection. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

## Label elements of the complete product



GHS03 GHS07 GHS08

Signal word: DANGER

H317, H334

May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

P261sh, P280sh, P342+311

Avoid breathing dust/vapours. Wear protective gloves/eye protection. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

## 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.



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

Cause after oral intake, inhalation of vapours/dust, skin contact, impairments of health when ingested in small quantities. May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

## Information pertaining to particular risks to 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

#### 30 g NanOx Metal Neutralisation reagent (NR)

Substance name: *sodium hydrogen carbonate*  
CAS No.: 144-55-8

Substance rating: No criteria for classification or naming of chemical not required.  
Formula:  $\text{NaHCO}_3$   
Pseudonym (de): Bicarbonat  
REACH Reg. No.: 01-2119457606-32-xxxx  
EC No.: 206-059-0  
Concentration: 75 - <100 %  
acc. CLP (GHS): The criteria for classification are not fulfilled.

#### 30 g NanOx Metal Decomposition reagent (AR)

Substance name: *sodium carbonate*  
CAS No.: 497-19-8

Substance rating: H319, Eye Irrit. 2  
Formula:  $\text{Na}_2\text{CO}_3$   
Pseudonym (de): Soda  
REACH Reg. No.: 01-2119485498-19-xxxx  
EC No.: 207-838-8  
Concentration: 1 - <10 %  
acc. CLP (GHS): The criteria for classification are not fulfilled.  
Substance name: *sodium peroxodisulfate*  
CAS No.: 7775-27-1

Indice No.: 011-005-00-2

Substance rating: H272, Ox. Sol. 2, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H334, Resp. Sens. 1, H335, STOT SE 3  
Formula:  $\text{Na}_2\text{O}_8\text{S}_2$   
Pseudonym (de): Natriumpersulfat  
REACH Reg. No.: 01-2119495975-15-xxxx  
EC No.: 231-892-1  
Concentration: 80 - <100 %  
acc. CLP (GHS): H272, Ox. Liq. 2, H302, Acute Tox. 4 oral, H315, Skin Irrit. 2, H317, Skin Sens. 1, H319, Eye Irrit. 2, H334, Resp. Sens. 1, H335, STOT SE 3

### 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. Take to a doctor, in a raised position if there are breathing difficulties.

#### 4.1.1 After SKIN Contact

Remove contaminated clothing immediately. Rinse the affected skin or mucous membrane thoroughly for min. 15 minutes under running water. (If possible) use soap. Avoid neutralisation. Then apply a loose bandage.

#### 4.1.2 After EYE Contact

After contact with the eyes rinse thoroughly under running water with the eyelid wide open with eye washing bottle, eye douche or running water (protect intact eye).



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- 4.1.3 After INHALATION of vapours**  
After inhalation of foam or vapour fresh air should be inhaled. 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 should be drunk after it has been ingested.
- 4.2 Most important symptoms and effects, both acute and delayed**  
May cause allergy or asthma symptoms or breathing difficulties if inhaled. Chronic effects: Repeated contact, even in small amounts, can lead to sensitization.
- 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. Inform patient respectively further measures and the possibility of long-term damages. ---

## 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.
- 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. 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**  
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. Use only in well-ventilated working areas.



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## 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):** 5.1B

**Water hazard class (DE):** 1

### 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 g NanOx Metal Neutralisation reagent (NR)

Chemical: *sodium hydrogen carbonate*

CAS No.: 144-55-8

TRGS 900 (DE): -  
E/e respirable

#### 30 g NanOx Metal Decomposition reagent (AR)

Chemical: *sodium carbonate*

CAS No.: 497-19-8

DNEL: 10<sub>inh</sub> mg/m<sup>3</sup>  
DNEL = Derived No-Effect Level (for workers)

TRGS 900 (DE): -  
E/e respirable

Chemical: *sodium peroxodisulfate*

CAS No.: 7775-27-1

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

Use for open access of these substances for example a protection filter, class A/AX. 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.

#### 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.

#### 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

#### 30 g NanOx Metal Neutralisation reagent (NR)

- |                          |                   |
|--------------------------|-------------------|
| a) State of aggregation: |                   |
| b) Colour:               | colourless        |
| c) Odor:                 | red               |
| d) Melting point:        | no data available |
| e) Boiling point:        | no data available |
| f) Flammability:         | no data available |



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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:	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:	no data available
q) Relative vapour density (air=1) :	no data available
r) Particle size:	no data available

### 30 g NanOx Metal Decomposition reagent (AR)

a) State of aggregation:	
b) Colour:	colourless
c) Odor:	red
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:	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:	no data available
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**

## 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

No further data available.

### 10.4 Conditions to avoid

Persulfates decompose when heated by splitting off oxygen. 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.



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## 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 g NanOx Metal Neutralisation reagent (NR)

Chemical: *sodium hydrogen carbonate*  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-31360  
 LD50 orl rat : 4220 mg/kg  
 LC<sub>Low</sub> orl hmn : 500 mg/kg

CAS No.: 144-55-8

#### 30 g NanOx Metal Decomposition reagent (AR)

Chemical: *sodium carbonate*  
 TSCA Inventory: listed  
 Korea Exist.Chem.Inventory: KE-31380  
 LD50 orl rat : 4090 mg/kg  
 LC<sub>Low</sub> orl rat : 4000 mg/kg  
 LC50 ihl rat : 2,300 mg/L/2H

CAS No.: 497-19-8

Chemical: *sodium peroxodisulfate*

CAS No.: 7775-27-1

TSCA Inventory: listed California Proposition 65 List: not listed  
 Australia NICNAS: Yes (PEC/18) Canada CEPA 1999: DSL Yes  
 Japan CSCL/PRTR: not listed, Japan PDSCL: not listed  
 Japan ISHL: listed ≥1,0%/≥0,1%, Article 57-2 (SDS required)  
 South Korea TCCA: not listed  
 Korea Exist.Chem.Inventory: KE-12369  
 LD50 orl rat : 902 mg/kg

Acute Effects: Cause after oral intake, inhalation of vapours/dust, skin contact, impairments of health when ingested in small quantities.

Chronic Effects: May cause sensitization by skin contact, also in repeated contact of small amounts. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### 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 g NanOx Metal Neutralisation reagent (NR)

Chemical: *sodium hydrogen carbonate*  
 Water hazard class (DE): 1 WGK No.: 374  
 Storage class (VCI): 12-13

CAS No.: 144-55-8

#### 30 g NanOx Metal Decomposition reagent (AR)

Chemical: *sodium carbonate*  
 LC50 fish/96h : 300 mg/L  
 EC50 daphnia/48h : 265 mg/L  
 Water hazard class (DE): 1 WGK No.: 0222  
 Storage class (VCI): 12-13

CAS No.: 497-19-8

Chemical: *sodium peroxodisulfate*

CAS No.: 7775-27-1

Water hazard class (DE): 1 WGK No.: 1352  
 Storage class (VCI): 5.1 B



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**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

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**

## 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 ICAO*

PAX: 960      max. weight PAX: 10 KG

CAO: 960      max. weight CAO: 10 KG

*Maritime transport IMDG*

EmS: F-A, S-P      Storage category: A

Or use **Alternative declaration for transportation:**

UN No.: (see below) class 5.1 III, **Excepted Quantities** ( $\leq 30 \text{ mL} / \Sigma \leq 1 \text{ L}$ ) = ADR/ IATA E1

or

**14.1 UN number:** 3215      **14.2 UN proper shipping name:** Persulphates, inorganic, n.o.s.

**14.3 Class:** 5.1      **14.4 Packing group:** III

*Road transport ADR*

Classification code: O2      Tunnel restriction code: E

Limited Quantity: 5 Kg

Excepted Quantity: E 1

*Air transport ICAO*

Limited Quantity: LQ 12

Excepted Quantity: E 1

PAX: 559      max. weight PAX: 25 Kg

CAO: 563      max. weight CAO: 100 Kg

*Maritime transport IMDG*

EmS: F-A, S-Q      Storage category: B

Maritime pollutant (5.2.1.6): P\* (Limited Quantity (LQ) until 5 L/kg per inner package)

**14.5 Environmental hazards**

none, contains only small quantities of hazardous substances

**14.6 Special precautions for user**

not necessary





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## 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

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](http://www.mn-net.com)  
 If necessary, observe other country-specific regulations.

### 15.2 Chemical safety assessment

not necessary for these small amounts

## SECTION 16: Other information

### 16.1 Changes compared to the last version

Between versions 2.2.3.2 and 2.2.2.2 following changes were applied: - 1 composition data corrected

### 16.2 List of H and P phrases

#### 16.2.1 List of relevant H phrases

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

#### 16.2.2 List of relevant P phrases

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
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.
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P342+311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

### 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 dangerous working materials  
 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 the CLP Regulation 1272/2008/EU to technical and scientific progress  
 Regulation 453/2010/EU REACH – REQUIREMENTS FOR THE PREPARATION OF SAFETY DATA SHEET  
 TRGS 907, German engineering rules for listing substances and causes of sensitization, updated November 2011  
 Regulation 487/2013/EU, 4. Adaptation of the CLP regulation to technical and scientific progress  
 Regulation 669/2018/EU, 4. Adaptation of the CLP regulation to technical and scientific progress  
 Regulation 1480/2018/EU, 4. Adaptation of the CLP regulation to technical and scientific progress



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# Safety Data Sheet

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

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TRGS 900, German engineering rules on limit values in the air at work, as of 03/2019  
 Regulation 878/2020/EU  
 Regulation 849/2021/EU, 4. Adaptation of the CLP regulation to technical and scientific progress

**Revisions/Updates**

*Reason for revision:* 2014-02 Corrected structure of the sections according to Regulation 453/2010/EU, if necessary  
 2014-04 Adjustment of Regulation 487/2013/EU  
 2016-03 Adjustment of Regulation 1221/2015/EU

2017-11 adaptation of the ECHA registration dossier  
 2022-11 Adjustment of 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%
- 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



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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
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.

