

**Safety data sheet**  
according to 1907/2006/EC, Article 31

revised on: 24.05.2023

Version number 4

Creation Date: 29.12.2016

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

- **1.1 Product identifier**
- **Trade name: Potassium permanganate**
- **Article number:** 1665, 1693
- **CAS Number:**  
7722-64-7
- **EC number:**  
231-760-3
- **Index number:**  
025-002-00-9
- **Registration number** 01-2119480139-34-XXXX
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Life cycle stages**  
IS Use at industrial Sites  
F Formulation or re-packing
- **Sector of Use**  
SU24 Scientific research and development  
SU9 Manufacture of fine chemicals
- **Product category**  
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents  
PC21 Laboratory chemicals  
PC29 Pharmaceuticals  
PC40 Extraction agents
- **Process category**  
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.  
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions  
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition  
PROC4 Chemical production where opportunity for exposure arises  
PROC5 Mixing or blending in batch processes  
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)  
PROC15 Use as laboratory reagent
- **Environmental release category**  
ERC1 Manufacture of the substance  
ERC2 Formulation into mixture  
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)  
ERC6a Use of intermediate
- **Application of the substance / the mixture**  
Industrial use  
Reagent for analysis  
Laboratory chemicals
- **Uses advised against**  
Disinfectant  
Cosmetic auxiliary
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Th. Geyer GmbH & Co. KG  
Dornierstr. 4 – 6  
D-71272 Renningen

Tel.: +49(0)7159-1637-0, Fax: +49 (0)7159/18417

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www.thgeyer.de  
sicherheitsdatenblaetter@thgeyer.de

· **Further information obtainable from:** Product management department

· **1.4 Emergency telephone number:**

National Poisons Information Service

City Hospital

Dudley Road

Birmingham B18 7QH

Tel.:Emergency: (00 44) 87 06 00 62 66

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

### SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS03 flame over circle

Ox. Sol. 2            H272    May intensify fire; oxidiser.



GHS08 health hazard

Repr. 2            H361d Suspected of damaging the unborn child.



GHS09 environment

Aquatic Acute 1    H400    Very toxic to aquatic life.

Aquatic Chronic 1 H410    Very toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4            H302    Harmful if swallowed.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS03



GHS07



GHS08



GHS09

· **Signal word** Danger

· **Hazard statements**

H272    May intensify fire; oxidiser.

H302    Harmful if swallowed.

H361d Suspected of damaging the unborn child.

H410    Very toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.1 Substances**
- **CAS No. Description**  
CAS: 7722-64-7 potassium permanganate
- **Identification number(s)**
- **EC number:** 231-760-3
- **Index number:** 025-002-00-9

### SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**  
First aider needs to protect himself.  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air.  
Call a doctor immediately.
- **After skin contact:**  
Wash off with plenty of water.  
Immediately remove any clothing soiled by the product.  
After prolonged contact or any signs of skin changes (redness or other signs of inflammation) seek medical attention.
- **After eye contact:**  
Protect unharmed eye.  
Rinse out opened eye for several minutes under running water.  
Seek immediate medical advice.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
A person vomiting while laying on their back should be turned onto their side.  
Consult a physician.
- **Information for doctor:** Please observe safety data sheet/label.
- **4.2 Most important symptoms and effects, both acute and delayed**  
Headache  
Breathing difficulty  
Unconsciousness
- **Hazards** Danger of pneumonia.
- **4.3 Indication of any immediate medical attention and special treatment needed**  
Later observation for pneumonia and pulmonary oedema.  
In cases of cyanosis, administer vitamin C, oxygen, protect from sunlight.  
Give Glucocorticoid-Aerosol in case of lung irritation.  
If swallowed, gastric irrigation.  
Monitor circulation.  
Symptomatic treatment.

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### SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet.
- **5.2 Special hazards arising from the substance or mixture**
  - The product is oxidising.
  - In case of fire, the following can be released:
    - Manganese oxides
    - Potassium oxides
  - Ambient fire may liberate hazardous vapours.
- **5.3 Advice for firefighters**
- **Protective equipment:**
  - Wear self-contained respiratory protective device.
  - Do not inhale explosion gases or combustion gases.
- **Additional information**
  - Cool endangered receptacles with water spray.
  - Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
  - Prevent fire extinguishing water from contaminating surface water or the ground water system.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
  - Ensure adequate ventilation.
  - Avoid formation of dust.
  - Avoid contact with eyes and skin.
  - Evacuate the danger area.
  - Consult an expert.
  - Keep away from ignition sources.
- **6.2 Environmental precautions:**
  - Inform respective authorities in case of seepage into water course or sewage system.
  - Do not allow to enter sewers/surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
  - Cover drains.
  - Pick up mechanically.
  - Dispose contaminated material as waste according to section 13.
  - Dispose of the material collected according to regulations.
- **6.4 Reference to other sections**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
  - Store in cool, dry place in tightly closed receptacles.
  - General hygiene measures for the handling of chemicals are applicable.
  - Keep away from heat and direct sunlight.
- **Information about fire - and explosion protection:** Substance/product is oxidising when dry.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
  - Prevent any seepage into the ground.
  - Store only in the original receptacle.
- **Information about storage in one common storage facility:**
  - Store away from flammable substances.

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- Store away from foodstuffs.
- Store away from water.
- **Further information about storage conditions:**
  - Protect from humidity and water.
  - Store in dry conditions.
- **Storage class:** 5.1 B
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

#### · 8.1 Control parameters

##### · Ingredients with limit values that require monitoring at the workplace:

**CAS: 7722-64-7 potassium permanganate**

|     |   |
|-----|---|
| WEL | Long-term value: 0.2* 0.05** mg/m <sup>3</sup><br>as Mn *inhalable fraction **respirable fraction |
|-----|---|

#### · 8.2 Exposure controls

- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**
  - Keep away from foodstuffs, beverages and feed.
  - Wash hands before breaks and at the end of work.
- **Hand protection**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

##### · **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

NBR: acrylonitrile-butadiene rubber

Material thickness &gt; 0.11 mm

##### · **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Level 6 for applications &gt; 480 min

##### · **Eye/face protection**



Safety glasses

##### · **Body protection:**



Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

### SECTION 9: Physical and chemical properties

#### · 9.1 Information on basic physical and chemical properties

##### · General Information

##### · Physical state

Solid

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|  |   |
|--|---|
| · Colour:  | Violet  |
| · Odour:   | Odourless   |
| · Melting point/freezing point:                            | >240 °C   |
| · Boiling point or initial boiling point and boiling range | Undetermined.                                     |
| · Flammability   | Contact with combustible material may cause fire. |
| · Lower and upper explosion limit                          |   |
| · Lower:   | Not determined.                                   |
| · Upper:   | Not determined.                                   |
| · Flash point:   | Not applicable.                                   |
| · Decomposition temperature:                               | Not determined.                                   |
| · pH   | 7–9   |
| · Viscosity:   |   |
| · Kinematic viscosity                                      | Not applicable.                                   |
| · Dynamic:   | Not applicable.                                   |
| · Solubility   |   |
| · water at 20 °C:  | 64 g/l  |
| · Partition coefficient n-octanol/water (log value)        | Not determined.                                   |
| · Vapour pressure at 20 °C:                                | 0 hPa   |
| · Density and/or relative density                          |   |
| · Density at 20 °C:  | 2.7 g/cm <sup>3</sup>                             |
|  | Not determined.                                   |
| · Relative density   | Not determined.                                   |
| · Vapour density   | Not applicable.                                   |
| · Particle characteristics                                 |   |
| See section 3.   |   |

|   |   |
|---|---|
| · <b>9.2 Other information</b>  |   |
| · Appearance:   |   |
| · Form:   | Solid   |
| · Important information on protection of health and environment, and on safety. |   |
| · Ignition temperature:   | Not determined.                               |
| · Explosive properties:   | Product does not present an explosion hazard. |
| · Molecular weight  | 158.03 g/mol                                  |
| · Change in condition   |   |
| · Evaporation rate  | Not applicable.                               |

|   |                               |
|---|-------------------------------|
| · Information with regard to physical hazard classes                        |                               |
| · Explosives  | Void                          |
| · Flammable gases   | Void                          |
| · Aerosols  | Void                          |
| · Oxidising gases   | Void                          |
| · Gases under pressure  | Void                          |
| · Flammable liquids   | Void                          |
| · Flammable solids  | Void                          |
| · Self-reactive substances and mixtures                                     | Void                          |
| · Pyrophoric liquids  | Void                          |
| · Pyrophoric solids   | Void                          |
| · Self-heating substances and mixtures                                      | Void                          |
| · Substances and mixtures, which emit flammable gases in contact with water | Void                          |
| · Oxidising liquids   | Void                          |
| · Oxidising solids  | May intensify fire; oxidiser. |
| · Organic peroxides   | Void                          |
| · Corrosive to metals   | Void                          |

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· Desensitised explosives

Void

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable with proper storage and handling.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**  
Heat, flames and sparks  
Protect from humidity.
- **10.5 Incompatible materials:** Avoid contact with other chemicals.
- **10.6 Hazardous decomposition products:** On fire: see chapter 5

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Harmful if swallowed.

#### · LD/LC50 values relevant for classification:

|      |      |                   |
|------|------|-------------------|
| Oral | LD50 | 2,000 mg/kg (rat) |
|------|------|-------------------|

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Suspected of damaging the unborn child.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.
- **Subacute to chronic toxicity:** -
- **11.2 Information on other hazards**
- **Endocrine disrupting properties** Substance is not listed.

### SECTION 12: Ecological information

#### · 12.1 Toxicity

##### · Aquatic toxicity:

|      |                                    |
|------|------------------------------------|
| EC50 | 0.056 mg/l (daphnia)               |
|      | Daphnia magna, 48 h. Literaturwert |

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties**  
The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**  
Very toxic for aquatic organisms  
Water hazard class 3 (German Regulation) (Assessment by list): extremely hazardous for water

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Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Observe local (country-specific) regulations and laws

This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Chemicals must be disposed of in compliance with the respective national regulations.

#### European waste catalogue

|          |  |
|----------|--|
| 06 00 00 | WASTES FROM INORGANIC CHEMICAL PROCESSES   |
| 06 10 00 | wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture |
| 06 10 99 | wastes not otherwise specified   |
| HP2      | Oxidising  |
| HP6      | Acute Toxicity   |
| HP10     | Toxic for reproduction   |
| HP14     | Ecotoxic   |

#### Uncleaned packaging:

**Recommendation:** Disposal must be made according to official regulations.

### SECTION 14: Transport information

#### 14.1 UN number or ID number

**ADR, IMDG, IATA** UN1490

#### 14.2 UN proper shipping name

**ADR** 1490 POTASSIUM PERMANGANATE,  
ENVIRONMENTALLY HAZARDOUS  
**IMDG, IATA** POTASSIUM PERMANGANATE

#### 14.3 Transport hazard class(es)

##### ADR



**Class** 5.1 (O2) Oxidising substances.  
**Label** 5.1

##### IMDG, IATA



**Class** 5.1 Oxidising substances.  
**Label** 5.1

#### 14.4 Packing group

**ADR, IMDG, IATA** II

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|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> <li>· <b>Special marking (ADR):</b></li> </ul>   | Environmentally hazardous substance, solid<br>Symbol (fish and tree)  |
| <ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> <li>· <b>Hazard identification number (Kemler code):</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Segregation groups</b></li> <li>· <b>Stowage Category</b></li> <li>· <b>Segregation Code</b></li> </ul> | Warning: Oxidising substances.<br>-<br>F-H,S-Q<br>(SGG14) Permanganates<br>D<br>SG38 Stow "separated from" SGG2-ammonium compounds.<br>SG49 Stow "separated from" SGG6-cyanides<br>SG60 Stow "separated from" SGG16-peroxides |
| <ul style="list-style-type: none"> <li>· <b>14.7 Maritime transport in bulk according to IMO instruments</b></li> </ul>   | Not applicable.   |
| <ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> </ul>  |   |
| <ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> <li>· <b>Transport category</b></li> <li>· <b>Tunnel restriction code</b></li> </ul>  | 1 kg<br>Code: E2<br>Maximum net quantity per inner packaging: 30 g<br>Maximum net quantity per outer packaging: 500 g<br>2<br>E   |
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>  | 1 kg<br>Code: E2<br>Maximum net quantity per inner packaging: 30 g<br>Maximum net quantity per outer packaging: 500 g   |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>   | UN 1490 POTASSIUM PERMANGANATE, 5.1, II, ENVIRONMENTALLY HAZARDOUS  |

### SECTION 15: Regulatory information

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

##### · Inventory of Hazardous Chemicals

CAS: 7722-64-7 | potassium permanganate

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category**  
P8 OXIDISING LIQUIDS AND SOLIDS  
E1 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**  
Substance is not listed.
- **REGULATION (EU) 2019/1148**
- **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**  
Substance is not listed.
- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
- **Regulation (EC) No 273/2004 on drug precursors** 2B

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- **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**

2

- **National regulations:**

- **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Application, use and handling of our products take place out of our control and are solely your responsibility.

- **Department issuing SDS:** Product management

- **Contact:** Product management

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 2: Oxidizing solids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Repr. 2: Reproductive toxicity – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

- **\* Data compared to the previous version altered.**

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### Annex: Exposure scenario

- **Short title of the exposure scenario** Chemicals for Laboratory and industrial use
- **Sector of Use**
  - SU24 Scientific research and development
  - SU9 Manufacture of fine chemicals
- **Product category**
  - PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
  - PC21 Laboratory chemicals
  - PC29 Pharmaceuticals
  - PC40 Extraction agents
- **Process category**
  - PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
  - PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
  - PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
  - PROC4 Chemical production where opportunity for exposure arises
  - PROC5 Mixing or blending in batch processes
  - PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
  - PROC15 Use as laboratory reagent
- **Environmental release category**
  - ERC1 Manufacture of the substance
  - ERC2 Formulation into mixture
  - ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
  - ERC6a Use of intermediate
- **Description of the activities / processes covered in the Exposure Scenario**
  - See section 1 of the annex to the Safety Data Sheet.
- **Conditions of use**
- **Duration and frequency** 5 workdays/week.
- **Physical parameters**
- **Physical state** Solid material
- **Concentration of the substance in the mixture** Raw material.
- **Other operational conditions** Observe the general safety regulations when handling chemicals.
- **Other operational conditions affecting environmental exposure**
  - Observe section 6 of the Safety Data Sheet (Accidental release measures).
  - Use only on hard ground.
- **Other operational conditions affecting worker exposure** Keep away from combustible material.
- **Other operational conditions affecting consumer exposure** Keep out of the reach of children.
- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.
- **Risk management measures**
- **Worker protection**
- **Organisational protective measures**
  - Provide Internal Plant Instruction.
  - Employment restrictions concerning juveniles must be observed.
  - Employment restrictions concerning pregnant and lactating women must be observed.
  - Persons, who tend to skin diseases or other hypersensitivity reactions of the skin, should not handle the product.
- **Technical protective measures**
  - Use product only in enclosed systems.
  - Ensure that suitable extractors are available on processing machines
- **Personal protective measures**
  - Do not inhale gases / fumes / aerosols.
  - Do not inhale dust / smoke / mist.
- **Measures for consumer protection**
  - Ensure adequate labelling.
  - Keep locked up and out of the reach of children.

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**· Environmental protection measures****· Water**

Do not allow to reach ground water, water bodies or sewage system.

Do not allow to reach sewage system.

**· Soil** Prevent contamination of soil.**· Disposal measures** Ensure that waste is collected and contained.**· Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**· Waste type** Partially emptied and uncleaned packaging**· Exposure estimation****· Consumer** Not relevant for this Exposure Scenario.**· Guidance for downstream users** No further relevant information available.

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