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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II  
Revision date / version: 01.11.2021 / 0002  
Replacing version dated / version: 16.12.2019 / 0001  
Valid from: 01.11.2021  
PDF print date: 01.11.2021  
4F-Cleaner 4 kg  
Art.: 9095845

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**Safety data sheet  
according to Regulation (EC) No 1907/2006, Annex II**

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

**1.1 Product identifier**

**4F-Cleaner 4 kg**

**Art.: 9095845**

Reaction mass of ethylbenzene and m-xylene and p-xylene  
Registration number (ECHA): 01-2119488216-32-XXXX  
Index: ---  
EINECS, ELINCS, NLP, REACH-IT List-No.: 905-562-9  
CAS: ---

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

**Relevant identified uses of the substance or mixture:**

Cleaner

**Uses advised against:**

No information available at present.

**1.3 Details of the supplier of the safety data sheet**

BTI Befestigungstechnik GmbH & Co. KG  
Salzstr. 51  
74653 Ingelfingen  
Tel.: +49 7940 141 141  
Fax: +49 7940 141 9141  
Email: info@bti.de  
Homepage: www.bti.de

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

**1.4 Emergency telephone number**

**Emergency information services / official advisory body:**

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**Telephone number of the company in case of emergencies:**

+49 (0) 700 / 24 112 112 (BRC)  
+1 872 5888271 (BRC)

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**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) 1272/2008 (CLP)**

| <b>Hazard class</b> | <b>Hazard category</b> | <b>Hazard statement</b> |
|---------------------|------------------------|-------------------------|
|---------------------|------------------------|-------------------------|

---

|                 |   |   |
|-----------------|---|---|
| Flam. Liq.      | 3 | H226-Flammable liquid and vapour.   |
| Acute Tox.      | 4 | H332-Harmful if inhaled.  |
| Acute Tox.      | 4 | H312-Harmful in contact with skin.  |
| STOT RE         | 2 | H373-May cause damage to organs through prolonged or repeated exposure (organs of hearing). |
| Eye Irrit.      | 2 | H319-Causes serious eye irritation.   |
| STOT SE         | 3 | H335-May cause respiratory irritation.  |
| Skin Irrit.     | 2 | H315-Causes skin irritation.  |
| Asp. Tox.       | 1 | H304-May be fatal if swallowed and enters airways.  |
| Aquatic Chronic | 3 | H412-Harmful to aquatic life with long lasting effects.                                     |

## 2.2 Label elements

### Labeling according to Regulation (EC) 1272/2008 (CLP)



Reaction mass of ethylbenzene and m-xylene and p-xylene

CAS: ---, Index:---

### Danger

H226-Flammable liquid and vapour. H332-Harmful if inhaled. H312-Harmful in contact with skin. H373-May cause damage to organs through prolonged or repeated exposure (organs of hearing). H319-Causes serious eye irritation. H335-May cause respiratory irritation. H315-Causes skin irritation. H304-May be fatal if swallowed and enters airways. H412-Harmful to aquatic life with long lasting effects.

P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P260-Do not breathe vapours or spray. P273-Avoid release to the environment. P280-Wear protective gloves / eye protection / face protection.

P301+P310-IF SWALLOWED: Immediately call a POISON CENTER / doctor. P312-Call a POISON CENTRE / doctor if you feel unwell. P331-Do NOT induce vomiting.

## 2.3 Other hazards

No vPvB substance

No PBT substance

No substance with endocrine disrupting properties.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances



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| Reaction mass of ethylbenzene and m-xylene and p-xylene                | Substance for which an EU exposure limit value applies.   |
|--|---|
| Registration number (REACH)  | 01-2119488216-32-XXXX   |
| Index  | ---   |
| EINECS, ELINCS, NLP, REACH-IT List-No.                                 | 905-562-9   |
| CAS  | ---   |
| content %  |   |
| Classification according to Regulation (EC) 1272/2008 (CLP), M-factors | Flam. Liq. 3, H226<br>Acute Tox. 4, H312<br>Acute Tox. 4, H332<br>Skin Irrit. 2, H315<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>STOT RE 2, H373 (organs of hearing)<br>Asp. Tox. 1, H304<br>Aquatic Chronic 3, H412 |

### 3.2 Mixtures

n.a.

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.  
 The substances named in this section are given with their actual, appropriate classification!  
 For substances that are listed in appendix VI, table 3.1 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!  
 Never pour anything into the mouth of an unconscious person!

#### Inhalation

Remove person from danger area.  
 Supply person with fresh air and consult doctor according to symptoms.  
 If the person is unconscious, place in a stable side position and consult a doctor.

#### Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

#### Eye contact

Remove contact lenses.  
 Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

#### Ingestion

Rinse the mouth thoroughly with water.  
 Do not induce vomiting. Consult doctor immediately.  
 Danger of aspiration.

In case of vomiting, keep head low so that the stomach content does not reach the lungs.

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

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.  
 In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.  
 Watering eyes  
 Drying of the skin.



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Dermatitis (skin inflammation)  
Ingestion:  
Nausea  
Vomiting  
Danger of aspiration.  
Oedema of the lungs  
Chemical pneumonitis (condition similar to pneumonia)  
**4.3 Indication of any immediate medical attention and special treatment needed**  
Gastric lavage (stomach washing) only under endotracheal intubation.  
Subsequent observation for pneumonia and pulmonary oedema.

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## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Water jet spray/foam/CO2/dry extinguisher

#### **Unsuitable extinguishing media**

High volume water jet

### **5.2 Special hazards arising from the substance or mixture**

In case of fire the following can develop:

Oxides of carbon

Toxic gases

Explosive vapour/air or gas/air mixtures.

### **5.3 Advice for firefighters**

For personal protective equipment see Section 8.

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

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## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

#### **6.1.1 For non-emergency personnel**

In case of spillage or accidental release, wear personal protective equipment as specified in section 8 to prevent contamination.

Ensure sufficient ventilation, remove sources of ignition.

Avoid dust formation with solid or powder products.

Leave the danger zone if possible, use existing emergency plans if necessary.

Keep unprotected persons away.

Ensure sufficient supply of air.

Remove possible causes of ignition - do not smoke.

Avoid contact with eyes or skin.

If applicable, caution - risk of slipping.

#### **6.1.2 For emergency responders**

See section 8 for suitable protective equipment and material specifications.

### **6.2 Environmental precautions**



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If leakage occurs, dam up.

Resolve leaks if this possible without risk.

Prevent surface and ground-water infiltration, as well as ground penetration.

Prevent from entering drainage system.

If accidental entry into drainage system occurs, inform responsible authorities.

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

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.

Fill the absorbed material into lockable containers.

### **6.4 Reference to other sections**

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

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## **SECTION 7: Handling and storage**

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### **7.1 Precautions for safe handling**

#### **7.1.1 General recommendations**

Ensure good ventilation.

Avoid inhalation of the vapours.

Keep away from sources of ignition - Do not smoke.

Take precautions against electrostatic charges.

Avoid contact with eyes or skin.

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

#### **7.1.2 Notes on general hygiene measures at the workplace**

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

### **7.2 Conditions for safe storage, including any incompatibilities**

Keep out of access to unauthorised individuals.

Store product closed and only in original packing.

Not to be stored in gangways or stair wells.

Observe special storage conditions.

Under all circumstances prevent penetration into the soil.

Do not store with flammable or self-igniting materials.

Protect from direct sunlight and warming.

Store in a well ventilated place.

Store cool.


### **7.3 Specific end use(s)**

No information available at present.

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## **SECTION 8: Exposure controls/personal protection**

### **8.1 Control parameters**

|  Chemical Name | Reaction mass of ethylbenzene and m-xylene and p-xylene | Content %: |
|---|---|------------|
|---|---|------------|



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|  |  |     |
|--|--|-----|
| WEL-TWA: 220 mg/m <sup>3</sup> (50 ppm) (WEL), 50 ppm (221 mg/m <sup>3</sup> ) (EU) (Xylene), 100 ppm (441 mg/m <sup>3</sup> ) (WEL), 100 ppm (442 mg/m <sup>3</sup> ) (EU) (Ethylbenzene) | WEL-STEL: 100 ppm (441 mg/m <sup>3</sup> ) (WEL), 100 ppm (442 mg/m <sup>3</sup> ) (EU) (Xylene), 125 ppm (552 mg/m <sup>3</sup> ) (WEL), 200 ppm (884 mg/m <sup>3</sup> ) (EU) (Ethylbenzene)   | --- |
| Monitoring procedures:   | INSHT MTA/MA-030/A92 (Determination of aromatic hydrocarbons (benzene, toluene, ethylbenzene, p-xylene, 1,2,4-trimethylbenzene) in air - Charcoal tube method / Gas chromatography) - 1992 - EU project BC/CEN/ENTR/000/2002-16 card 47-1 (2004)<br>- OSHA 1002 (Xylenes (o-, m-, p-isomers) Ethylbenzene) - 1999<br>- Draeger - Hydrocarbons 0,1%/c (81 03 571)<br>- Draeger - Hydrocarbons 2/a (81 03 581) |     |
| BMGV: 650 mmol methyl hippuric acid/mol creatinine in urine, post shift (Xylene, o-, m-, p- or mixed isomers) (BMGV) (Xylene)  | Other information: Sk (WEL) (Xylene), Sk (WEL) (Ethylbenzene)  |     |

| Reaction mass of ethylbenzene and m-xylene and p-xylene |  |                              |            |       |                   |      |
|---|--|------------------------------|------------|-------|-------------------|------|
| Area of application                                     | Exposure route / Environmental compartment | Effect on health             | Descriptor | Value | Unit              | Note |
|   | Environment - freshwater                   |                              | PNEC       | 0,327 | mg/l              |      |
|   | Environment - marine                       |                              | PNEC       | 0,327 | mg/l              |      |
|   | Environment - sediment, freshwater         |                              | PNEC       | 12,46 | mg/kg             |      |
|   | Environment - sediment, marine             |                              | PNEC       | 12,46 | mg/kg             |      |
|   | Environment - soil                         |                              | PNEC       | 2,31  | mg/kg             |      |
|   | Environment - sewage treatment plant       |                              | PNEC       | 6,58  | mg/l              |      |
| Workers / employees                                     | Human - inhalation                         | Long term, systemic effects  | DNEL       | 221   | mg/m <sup>3</sup> |      |
| Workers / employees                                     | Human - inhalation                         | Short term, systemic effects | DNEL       | 442   | mg/m <sup>3</sup> |      |



WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany).

(8) = Inhalable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (9) = Respirable fraction (Directive 2017/164/EU, Directive 2004/37/CE). (11) = Inhalable fraction (Directive 2004/37/CE). (12) = Inhalable fraction. Respirable fraction in those Member States that implement, on the date of the entry into force of this Directive, a biomonitoring system with a biological limit value not exceeding 0,002 mg Cd/g creatinine in urine (Directive 2004/37/CE). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period).

(8) = Inhalable fraction (2017/164/EU, 2017/2398/EU). (9) = Respirable fraction (2017/164/EU, 2017/2398/EU).

(10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.

\*\* = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with



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the goal of revision.

(13) = The substance can cause sensitisation of the skin and of the respiratory tract (Directive 2004/37/CE), (14)

= The substance can cause sensitisation of the skin (Directive 2004/37/CE).

## **8.2 Exposure controls**

### **8.2.1 Appropriate engineering controls**

Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. EN 14042.

EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

### **8.2.2 Individual protection measures, such as personal protective equipment**

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

Chemical resistant protective gloves (EN ISO 374).

Recommended

Protective gloves in butyl rubber (EN ISO 374).

Minimum layer thickness in mm:

$\geq 0,5$

Protective gloves made of fluorocarbon rubber (EN ISO 374).

Minimum layer thickness in mm:

$\geq 0,4$

Permeation time (penetration time) in minutes:

$\geq 480$

The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Protective hand cream recommended.

Skin protection - Other:

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

Respiratory protection:

If OES or MEL is exceeded.

Filter A2 P2 (EN 14387), code colour brown, white

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:



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Not applicable

Additional information on hand protection - No tests have been performed.  
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.  
Selection of materials derived from glove manufacturer's indications.  
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.  
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.  
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.  
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

### 8.2.3 Environmental exposure controls

No information available at present.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|   |   |
|---|---|
| Physical state:   | Liquid  |
| Colour:   | Transparent   |
| Odour:  | Characteristic  |
| Melting point/freezing point:                             | -39,3 °C  |
| Boiling point or initial boiling point and boiling range: | 130-150 °C  |
| Flammability:   | Flammable   |
| Lower explosion limit:                                    | 1,8 Vol-%   |
| Upper explosion limit:                                    | 11,5 Vol-%  |
| Flash point:  | 27-32 °C  |
| Auto-ignition temperature:                                | 488 °C  |
| Decomposition temperature:                                | There is no information available on this parameter.  |
| pH:   | Substance is non-soluble (in water).  |
| Kinematic viscosity:                                      | 0,4 mPas (20°C, Dynamic viscosity )   |
| Solubility:   | Not miscible  |
| Partition coefficient n-octanol/water (log value):        | There is no information available on this parameter.  |
| Vapour pressure:  | There is no information available on this parameter.  |
| Density and/or relative density:                          | There is no information available on this parameter.  |
| Relative vapour density:                                  | There is no information available on this parameter.  |
| Particle characteristics:                                 | Does not apply to liquids.  |
| <b>9.2 Other information</b>                              |   |
| Explosives:   | Product is not explosive. When using: development of explosive vapour/air mixture possible. |
| Oxidising liquids:  | No  |

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

The product has not been tested.





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## 10.2 Chemical stability

Stable with proper storage and handling.

## 10.3 Possibility of hazardous reactions

No dangerous reactions are known.

## 10.4 Conditions to avoid

Heating, open flame, ignition sources

Electrostatic charge

## 10.5 Incompatible materials

Avoid contact with strong oxidizing agents.

## 10.6 Hazardous decomposition products

No decomposition when used as directed.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Possibly more information on health effects, see Section 2.1 (classification).

| Reaction mass of ethylbenzene and m-xylene and p-xylene     |          |       |       |                        |   |                                |
|---|----------|-------|-------|------------------------|---|--------------------------------|
| Toxicity / effect   | Endpoint | Value | Unit  | Organism               | Test method   | Notes                          |
| Acute toxicity, by oral route:                              | LD50     | 3523  | mg/kg | Rat                    | Regulation (EC) 440/2008 B.1 (ACUTE ORAL TOXICITY)          |                                |
| Acute toxicity, by dermal route:                            |          |       |       |                        |   | n.d.a.                         |
| Acute toxicity, by inhalation:                              | LC50     | 6350  | ppm   | Rat                    | Regulation (EC) 440/2008 B.2 (ACUTE TOXICITY (INHALATION))  | Vapours                        |
| Skin corrosion/irritation:                                  |          |       |       |                        |   | n.d.a.                         |
| Serious eye damage/irritation:                              |          |       |       |                        |   | n.d.a.                         |
| Respiratory or skin sensitisation:                          |          |       |       |                        |   | n.d.a.                         |
| Germ cell mutagenicity:                                     |          |       |       |                        | OECD 478 (Genetic Toxicology - Rodent dominant Lethal Test) | Negative, Analogous conclusion |
| Germ cell mutagenicity:                                     |          |       |       | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test)                  | Negative, Analogous conclusion |
| Carcinogenicity:  |          |       |       |                        |   | n.d.a.                         |
| Reproductive toxicity:                                      |          |       |       |                        |   | n.d.a.                         |
| Specific target organ toxicity - single exposure (STOT-SE): |          |       |       |                        |   | n.d.a.                         |





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|                              |           |     |    |          |  |  |        |
|------------------------------|-----------|-----|----|----------|--|--|--------|
| 12.7. Other adverse effects: |           |     |    |          |  |  | n.d.a. |
| Toxicity to annelids:        | NOEC/NOEL | 14d | 16 | mg/kg dw |  |  |        |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### For the substance / mixture / residual amounts

The waste codes are recommendations based on the scheduled use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

14 06 03 other solvents and solvent mixtures

20 01 13 Solvents

20 01 29 detergents containing hazardous substances

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

E.g. suitable incineration plant.

E.g. dispose at suitable refuse site.

#### For contaminated packing material

Pay attention to local and national official regulations.

Empty container completely.

Uncontaminated packaging can be recycled.

Dispose of packaging that cannot be cleaned in the same manner as the substance.

Do not perforate, cut up or weld uncleaned container.

Residues may present a risk of explosion.

## SECTION 14: Transport information

### General statements

14.1. UN number or ID number: 1307

#### Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:

UN 1307 XYLENES

14.3. Transport hazard class(es):

3



14.4. Packing group:

III

Classification code:

F1

LQ:

5 L

14.5. Environmental hazards:

Not applicable

Tunnel restriction code:

D/E

#### Transport by sea (IMDG-code)

14.2. UN proper shipping name:

XYLENES

14.3. Transport hazard class(es):

3



14.4. Packing group:

III

EmS:

F-E, S-D

Marine Pollutant:

n.a

®

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14.5. Environmental hazards: Not applicable

**Transport by air (IATA)**

14.2. UN proper shipping name:

Xylenes

14.3. Transport hazard class(es):

3



14.4. Packing group:

III

14.5. Environmental hazards:

Not applicable

**14.6. Special precautions for user**

Persons employed in transporting dangerous goods must be trained.

All persons involved in transporting must observe safety regulations.

Precautions must be taken to prevent damage.

**14.7. Maritime transport in bulk according to IMO instruments**

Freighted as packaged goods rather than in bulk, therefore not applicable.

Minimum amount regulations have not been taken into account.

Danger code and packing code on request.

Comply with special provisions.

**SECTION 15: Regulatory information**

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

Observe restrictions:

Comply with national regulations/laws governing the protection of young people at work (national implementation of the Directive 94/33/EC)!

Comply with national regulations/laws governing maternity protection (national implementation of the Directive 92/85/EEC)!

Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

| Hazard categories | Notes to Annex I | Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements | Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements |
|-------------------|------------------|---|---|
| P5c               |                  | 5000  | 50000   |

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 100 %

**REGULATION (EC) No 648/2004**

30 % and more

aromatic hydrocarbons

Observe incident regulations.

**15.2 Chemical safety assessment**

No chemical safety assessment was carried out.



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## SECTION 16: Other information

Revised sections: 1-16  
Employee training in handling dangerous goods is required.  
These details refer to the product as it is delivered.  
Employee instruction/training in handling hazardous materials is required.  
The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).  
H226 Flammable liquid and vapour.  
H304 May be fatal if swallowed and enters airways.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H332 Harmful if inhaled.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H412 Harmful to aquatic life with long lasting effects.

Flam. Liq. — Flammable liquid  
Acute Tox. — Acute toxicity - inhalation  
Acute Tox. — Acute toxicity - dermal  
STOT RE — Specific target organ toxicity - repeated exposure  
Eye Irrit. — Eye irritation  
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation  
Skin Irrit. — Skin irritation  
Asp. Tox. — Aspiration hazard  
Aquatic Chronic — Hazardous to the aquatic environment - chronic

### Key literature references and sources for data:

Regulation (EC) No 1907/2006 (REACH) and Regulation (EC) No 1272/2008 (CLP) as amended.  
Guidelines for the preparation of safety data sheets as amended (ECHA).  
Guidelines on labelling and packaging according to the Regulation (EG) Nr. 1272/2008 (CLP) as amended (ECHA).  
Safety data sheets for the constituent substances.  
ECHA Homepage - Information about chemicals.  
GESTIS Substance Database (Germany).  
German Environment Agency "Rigoletto" information site on substances that are hazardous to water (Germany).  
EU Occupation Exposure Limits Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164, (EU) 2019/1831, each as amended.  
National Lists of Occupational Exposure Limits for each country as amended.  
Regulations on the transport of hazardous goods by road, rail, sea and air (ADR, RID, IMDG, IATA) as amended.

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### Any abbreviations and acronyms used in this document:

acc., acc. to according, according to  
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)



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4F-Cleaner 4 kg

Art.: 9095845

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AOX Adsorbable organic halogen compounds

approx. approximately

Art., Art. no. Article number

ASTM ASTM International (American Society for Testing and Materials)

ATE Acute Toxicity Estimate

BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)

BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF Bioconcentration factor

BSEF The International Bromine Council

bw body weight

CAS Chemical Abstracts Service

CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic

DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level

DOC Dissolved organic carbon

dw dry weight

e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EbCx, EyCx, EbLx (x = 10, 50) Effect Concentration/Level of x % on reduction of the biomass (algae, plants)

EC European Community

ECHA European Chemicals Agency

ECx, ELx (x = 0, 3, 5, 10, 20, 50, 80, 100) Effect Concentration/Level for x % effect

EEC European Economic Community

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EN European Norms

EPA United States Environmental Protection Agency (United States of America)

ErCx, EµCx, ErLx (x = 10, 50) Effect Concentration/Level of x % on inhibition of the growth rate (algae, plants)

etc. et cetera

EU European Union

EVAl Ethylene-vinyl alcohol copolymer

Fax. Fax number

gen. general

GHS Globally Harmonized System of Classification and Labelling of Chemicals

GWP Global warming potential

Koc Adsorption coefficient of organic carbon in the soil

Kow octanol-water partition coefficient

IARC International Agency for Research on Cancer

IATA International Air Transport Association

IBC (Code) International Bulk Chemical (Code)

IMDG-code International Maritime Code for Dangerous Goods

incl. including, inclusive

IUCLID International Uniform Chemical Information Database

IUPAC International Union for Pure Applied Chemistry

LC50 Lethal Concentration to 50 % of a test population

LD50 Lethal Dose to 50% of a test population (Median Lethal Dose)

Log Koc Logarithm of adsorption coefficient of organic carbon in the soil



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Log Kow, Log Pow      Logarithm of octanol-water partition coefficient  
LQ      Limited Quantities  
MARPOL      International Convention for the Prevention of Marine Pollution from Ships  
n.a.      not applicable  
n.av.      not available  
n.c.      not checked  
n.d.a.      no data available  
NIOSH      National Institute for Occupational Safety and Health (USA)  
NLP      No-longer-Polymer  
NOEC, NOEL      No Observed Effect Concentration/Level  
OECD      Organisation for Economic Co-operation and Development  
org.      organic  
OSHA      Occupational Safety and Health Administration (USA)  
PBT      persistent, bioaccumulative and toxic  
PE      Polyethylene  
PNEC      Predicted No Effect Concentration  
ppm      parts per million  
PVC      Polyvinylchloride  
REACH      Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)  
REACH-IT List-No.      9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.  
RID      Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)  
SVHC      Substances of Very High Concern  
Tel.      Telephone  
TOC      Total organic carbon  
UN RTDG      United Nations Recommendations on the Transport of Dangerous Goods  
VOC      Volatile organic compounds  
vPvB      very persistent and very bioaccumulative  
wwt      wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.  
No responsibility.