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

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

### 1.1 Product identifier

**PU GUN FOAM 4W B2 500 ML**
**Art.: 9006339**

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

**Relevant identified uses of the substance or mixture:**
PU-foam
Sector of use [SU]:
SU 0 - Other
SU 1 - Agriculture, forestry, fishery
SU19 - Building and construction work
SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category [PC]:
PC 1 - Adhesives, sealants
Process category [PROC]:
PROC19 - Manual activities involving hand contact
**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)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

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

| Hazard class | Hazard category | Hazard statement |
|---|---|---|
| Acute Tox. | 4 | H332-Harmful if inhaled. |
| Eye Irrit. | 2 | H319-Causes serious eye irritation. |
| STOT SE | 3 | H335-May cause respiratory irritation. |
| Skin Irrit. | 2 | H315-Causes skin irritation. |
| Resp. Sens. | 1 | H334-May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| Skin Sens. | 1 | H317-May cause an allergic skin reaction. |
| STOT RE | 2 | H373-May cause damage to organs through prolonged or repeated exposure. |
| Carc. | 2 | H351-Suspected of causing cancer. |
| Aerosol | 1 | H222-Extremely flammable aerosol. |
| Aerosol | 1 | H229-Pressurised container: May burst if heated. |

**2.2 Label elements**
**Labeling according to Regulation (EC) 1272/2008 (CLP)**

Danger

H332-Harmful if inhaled. H319-Causes serious eye irritation. H335-May cause respiratory irritation. H315-Causes skin irritation. H334-May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317-May cause an allergic skin reaction. H373-May cause damage to organs through prolonged or repeated exposure. H351-Suspected of causing cancer. H222-Extremely flammable aerosol. H229-Pressurised container: May burst if heated.

P201-Obtain special instructions before use. P202-Do not handle until all safety precautions have been read and understood. P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P211-Do not spray on an open flame or other ignition source. P251-Do not pierce or burn, even after use. P260-Do not breathe vapours or spray. P280-Wear protective gloves / protective clothing and eye protection / face protection. P284-Wear respiratory protection.
P304+P340-IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308+P313-IF exposed or concerned: Get medical advice / attention.
P410+P412-Protect from sunlight. Do not expose to temperatures exceeding 50 °C.

EUH204-Contains isocyanates. May produce an allergic reaction.

Without adequate ventilation, formation of explosive mixtures may be possible.
Diphenylmethanediisocyanate, isomeres and homologues

**2.3 Other hazards**
The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).

## SECTION 3: Composition/information on ingredients

Aerosol

**3.1 Substances**

n.a.

**3.2 Mixtures**

| **Diphenylmethanediisocyanate, isomeres and homologues** | |
|---|---|
| **Registration number (REACH)** | --- |
| **Index** | --- |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | --- |
| **CAS** | 9016-87-9 |
| **content %** | 30-50 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Acute Tox. 4, H332<br>Eye Irrit. 2, H319<br>STOT SE 3, H335<br>Skin Irrit. 2, H315<br>Resp. Sens. 1, H334<br>Skin Sens. 1, H317<br>Carc. 2, H351<br>STOT RE 2, H373 |

| **Tris(2-chlorisopropyl)phosphate** | |
|---|---|
| **Registration number (REACH)** | 01-2119447716-31-XXXX |
| **Index** | --- |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 237-158-7 |
| **CAS** | 13674-84-5 |
| **content %** | 10-20 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Acute Tox. 4, H302 |

| **Dimethyl ether** | **Substance for which an EU exposure limit value applies.** |
|---|---|
| **Registration number (REACH)** | 01-2119472128-37-XXXX |
| **Index** | 603-019-00-8 |
| **EINECS, ELINCS, NLP, REACH-IT List-No.** | 204-065-8 |
| **CAS** | 115-10-6 |
| **content %** | 1-10 |
| **Classification according to Regulation (EC) 1272/2008 (CLP), M-factors** | Flam. Gas 1A, H220 |

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**
Typically no exposure pathway.
Call doctor immediately - have Data Sheet available.
### 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.
The following may occur:
In case of sensitivity, concentrations below the limit value may already result in asthmatic symptoms.
Coughing
Headaches
Dizziness
Oedema of the lungs
Respiratory distress
Watering eyes
Drying of the skin.
Discoloration of the skin
Other dangerous properties cannot be ruled out.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.
### 4.3 Indication of any immediate medical attention and special treatment needed
Symptomatic treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media
**Suitable extinguishing media**
Extinction powder
CO2
Foam
Water jet spray
**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 phosphorus
Oxides of carbon
Oxides of nitrogen

Hydrocyanic acid (hydrogen cyanide)
Hydrogen chloride
Toxic pyrolysis products.
Danger of bursting (explosion) when heated
Explosive vapour/air or gas/air mixtures.

**5.3 Advice for firefighters**

In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
Full protection, if necessary.
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

## SECTION 6: Accidental release measures

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

Ensure sufficient supply of air.
Remove possible causes of ignition - do not smoke.
Avoid inhalation, and contact with eyes or skin.

**6.2 Environmental precautions**

Prevent from entering drainage system.
Prevent surface and ground-water infiltration, as well as ground penetration.
If leakage occurs, dam up.
Resolve leaks if this possible without risk.

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

If spray or gas escapes, ensure ample fresh air is available.
Active substance:
Allow product to harden.
Pick up mechanically and dispose of according to Section 13.
Recommended cleaner:
Acetone

**6.4 Reference to other sections**

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

## 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.
Do not use on hot surfaces.
Avoid contact with eyes or skin.
No contact with products of this type in case of allergies, asthma und chronic respiratory tract disorders.
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.
Observe special regulations for aerosols!
Not to be stored in gangways or stair wells.
Do not store with oxidizing agents.
Solvent resistant floor
Observe special regulations for aerosols!
Observe special storage conditions.
Keep protected from direct sunlight and temperatures over 50°C.
Store cool.
Protect from humidity.

**7.3 Specific end use(s)**

No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

| GB | **Chemical Name** | Diphenylmethanediisocyanate, isomeres and homologues | Content %:30-50 |
|---|---|---|---|
| WEL-TWA: 0,02 mg/m3 (Isocyanates, all (as -NCO)) | WEL-STEL: 0,07 mg/m3 (Isocyanates, all (as -NCO)) | --- | |
| Monitoring procedures: --- | | | |
| BMGV: 1 µmol isocyanate-derived diamine/mol creatinine in urine (At the end of the period of exposure) | | Other information: Sen (Isocyanates, all (as -NCO)) | |

| GB | **Chemical Name** | Dimethyl ether | Content %:1-10 |
|---|---|---|---|
| WEL-TWA: 400 ppm (766 mg/m3) (WEL), 1000 ppm (1920 mg/m3) (EU) | WEL-STEL: 500 ppm (958 mg/m3) (WEL) | --- | |
| Monitoring procedures: - Compur - KITA-123 S (549 129) | | | |
| BMGV: --- | | Other information: --- | |

| GB | **Chemical Name** | Isobutane | Content %: |
|---|---|---|---|
| WEL-TWA: 1000 ppm (EX) (ACGIH) | WEL-STEL: --- | --- | |
| Monitoring procedures: - Compur - KITA-113 SB(C) (549 368) | | | |
| BMGV: --- | | Other information: --- | |

| GB | **Chemical Name** | Propane | Content %: |
|---|---|---|---|
| WEL-TWA: 1000 ppm (ACGIH) | WEL-STEL: --- | --- | |
| Monitoring procedures: - Compur - KITA-125 SA (549 954)<br>- OSHA PV2077 (Propane) - 1990 | | | |
| BMGV: --- | | Other information: --- | |

| **Diphenylmethanediisocyanate, isomeres and homologues** | | | | | | |
|---|---|---|---|---|---|---|
| **Area of application** | **Exposure route / Environmental compartment** | **Effect on health** | **Descriptor** | **Value** | **Unit** | **Note** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Environment - freshwater | | PNEC | 1 | mg/l | |
| | Environment - marine | | PNEC | 0,1 | mg/l | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 10 | mg/l | |
| | Environment - sewage treatment plant | | PNEC | 1 | mg/l | |
| | Environment - soil | | PNEC | 1 | mg/kg | |
| Consumer | Human - oral | Short term, local effects | DNEL | 20 | mg/kg bw/d | |
| Consumer | Human - inhalation | Short term, local effects | DNEL | 0,05 | mg/m3 | |
| Consumer | Human - inhalation | Short term, systemic effects | DNEL | 0,05 | mg/m3 | |
| Consumer | Human - inhalation | Long term, local effects | DNEL | 0,025 | mg/m3 | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 0,025 | mg/m3 | |
| Consumer | Human - dermal | Short term, local effects | DNEL | 17,2 | mg/cm2 | |
| Consumer | Human - dermal | Short term, systemic effects | DNEL | 25 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Short term, local effects | DNEL | 0,1 | mg/m3 | |
| Workers / employees | Human - inhalation | Short term, systemic effects | DNEL | 0,1 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, local effects | DNEL | 0,05 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 0,05 | mg/m3 | |
| Workers / employees | Human - dermal | Short term, local effects | DNEL | 28,7 | mg/cm2 | |
| Workers / employees | Human - dermal | Short term, systemic effects | DNEL | 50 | mg/kg bw/d | |

| **Tris(2-chlorisopropyl)phosphate** | | | | | | |
|---|---|---|---|---|---|---|
| **Area of application** | **Exposure route / Environmental compartment** | **Effect on health** | **Descriptor** | **Value** | **Unit** | **Note** |
| | Environment - freshwater | | PNEC | 0,64 | mg/l | |
| | Environment - marine | | PNEC | 0,064 | mg/l | |
| | Environment - sewage treatment plant | | PNEC | 7,84 | mg/l | |
| | Environment - oral (animal feed) | | PNEC | 11600 | g/kg feed | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Consumer | Human - oral | Long term, systemic effects | DNEL | 0,52 | mg/kg bw/d | |
| Consumer | Human - oral | Short term, systemic effects | DNEL | 0,52 | mg/kg bw/d | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 1,04 | mg/kg bw/d | |
| Consumer | Human - dermal | Short term, systemic effects | DNEL | 1,04 | mg/kg bw/d | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 1,46 | mg/m3 | |
| Consumer | Human - inhalation | Short term, systemic effects | DNEL | 1,46 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 2,08 | mg/kg bw/d | |
| Workers / employees | Human - dermal | Short term, systemic effects | DNEL | 2,08 | mg/kg bw/d | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 5,82 | mg/m3 | |
| Workers / employees | Human - inhalation | Short term, systemic effects | DNEL | 5,82 | mg/m3 | |

| **Dimethyl ether** | | | | | | |
|---|---|---|---|---|---|---|
| **Area of application** | **Exposure route / Environmental compartment** | **Effect on health** | **Descriptor** | **Value** | **Unit** | **Note** |
| | Environment - freshwater | | PNEC | 0,155 | mg/l | |
| | Environment - sediment, freshwater | | PNEC | 0,681 | mg/kg | |
| | Environment - soil | | PNEC | 0,045 | mg/kg | |
| | Environment - sewage treatment plant | | PNEC | 160 | mg/l | |
| | Environment - marine | | PNEC | 0,016 | mg/l | |
| | Environment - water, sporadic (intermittent) release | | PNEC | 1,549 | mg/l | |
| | Environment - sediment, marine | | PNEC | 0,069 | mg/kg | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 471 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 1894 | mg/m3 | |

GB 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 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 374).
If applicable
Protective gloves made of butyl (EN 374).
Protective Neoprene® / polychloroprene gloves (EN 374).
Protective nitrile gloves (EN 374).
Minimum layer thickness in mm:
0,4
Permeation time (penetration time) in minutes:
> 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:
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.

## SECTION 9: Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| Physical state: | Aerosol. Active substance: liquid. |
| Colour: | According to specification |
| Odour: | Characteristic |
| Odour threshold: | Not determined |
| pH-value: | Not determined |
| Melting point/freezing point: | Not determined |
| Initial boiling point and boiling range: | Not determined |
| Flash point: | n.a. |
| Evaporation rate: | Not determined |
| Flammability (solid, gas): | Not determined |
| Lower explosive limit: | Not determined |
| Upper explosive limit: | Not determined |
| Vapour pressure: | Not determined |
| Vapour density (air = 1): | Not determined |
| Density: | Not determined |
| Bulk density: | Not determined |
| Solubility(ies): | Not determined |
| Water solubility: | Insoluble |
| Partition coefficient (n-octanol/water): | Not determined |
| Auto-ignition temperature: | Not determined |
| Decomposition temperature: | Not determined |
| Viscosity: | n.a. |
| Explosive properties: | Not determined |

| | |
|---|---|
| Oxidising properties: | No |
| **9.2 Other information** | |
| Miscibility: | Not determined |
| Fat solubility / solvent: | Organic solvents |
| Conductivity: | Not determined |
| Surface tension: | Not determined |
| Solvents content: | Not determined |

## SECTION 10: Stability and reactivity

**10.1 Reactivity**
The product has not been tested.
**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**
See also section 7.
Heating, open flame, ignition sources
Pressure increase will result in danger of bursting.
**10.5 Incompatible materials**
Avoid contact with strong oxidizing agents.
Avoid contact with strong alkalis.
Avoid contact with strong acids.
Amines
**10.6 Hazardous decomposition products**
See also section 5.2
No decomposition when used as directed.

## SECTION 11: Toxicological information

**11.1 Information on toxicological effects**
Possibly more information on health effects, see Section 2.1 (classification).

| **PU GUN FOAM 4W B2 500 ML<br>Art.: 9006339** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | ATE | >2000 | mg/kg | | | calculated value |
| Acute toxicity, by dermal route: | | | | | | n.d.a. |
| Acute toxicity, by inhalation: | ATE | 3,4 | mg/l/4h | | | calculated value, Aerosol |
| Skin corrosion/irritation: | | | | | | n.d.a. |
| Serious eye damage/irritation: | | | | | | n.d.a. |
| Respiratory or skin sensitisation: | | | | | | n.d.a. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Germ cell mutagenicity: | | | | | | n.d.a. |
| Carcinogenicity: | | | | | | n.d.a. |
| Reproductive toxicity: | | | | | | n.d.a. |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | n.d.a. |
| Specific target organ toxicity - repeated exposure (STOT-RE): | | | | | | n.d.a. |
| Aspiration hazard: | | | | | | n.d.a. |
| Symptoms: | | | | | | n.d.a. |

| **Diphenylmethanediisocyanate, isomeres and homologues** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | LD50 | >10000 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by dermal route: | LD50 | >9400 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | |
| Acute toxicity, by inhalation: | LC50 | 0,49 | mg/l/4h | Rat | OECD 403 (Acute Inhalation Toxicity) | Aerosol, Does not conform with EU classification . |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Mild irritant |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | Yes (skin contact) |
| Germ cell mutagenicity: | | | | | OECD 474 (Mammalian Erythrocyte Micronucleus Test) | Negative |
| Carcinogenicity: | | 1 | mg/m3 | Rat | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Positive |
| Reproductive toxicity: | NOAEL | 12 | mg/m3 | Rat | OECD 414 (Prenatal Developmental Toxicity Study) | Negative, Aerosol |

| | | | | | | |
|---|---|---|---|---|---|---|
| Reproductive toxicity (Developmental toxicity): | | 4 | | Rat | OECD 414 (Prenatal Developmental Toxicity Study) | Negative |
| Reproductive toxicity (Effects on fertility): | | | | Rat | OECD 414 (Prenatal Developmental Toxicity Study) | Negative |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | Irritation of the respiratory tract |
| Specific target organ toxicity - repeated exposure (STOT-RE): | NOEC | 0,2 | mg/kg | | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | |
| Aspiration hazard: | | | | | | No |
| Symptoms: | | | | | | fever, coughing, headaches, nausea and vomiting., dizziness, breathing difficulties, laryngeal oedema, abdominal pain, diarrhoea |
| Specific target organ toxicity - single exposure (STOT-SE), inhalative: | | | | | | Target organ(s): respiratory organs, May cause respiratory irritation. |

| **Tris(2-chlorisopropyl)phosphate** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | LD50 | 1150-1750 | mg/kg | Rat | | |
| Acute toxicity, by dermal route: | LD50 | >2000 | mg/kg | Rat | OECD 402 (Acute Dermal Toxicity) | |
| Acute toxicity, by inhalation: | LC50 | 4,6 | mg/l/4h | Rat | | Aerosol |
| Acute toxicity, by inhalation: | LC50 | >7,19 | mg/l/4h | Rat | | Vapours |
| Skin corrosion/irritation: | | | | | | Not irritant |

| | | | | | | |
|---|---|---|---|---|---|---|
| Serious eye damage/irritation: | | | | | | Not irritant |
| Germ cell mutagenicity: | | | | | (Ames-Test) | Negative |
| Reproductive toxicity: | | | | Rat | | Negative |
| Symptoms: | | | | | | respiratory distress, loss of hair, cramps, watering eyes |

| **Dimethyl ether** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by inhalation: | LC50 | 164 | mg/l/4h | Rat | | |
| Skin corrosion/irritation: | | | | | | Not irritant |
| Serious eye damage/irritation: | | | | | | Not irritant |
| Respiratory or skin sensitisation: | | | | | | No (skin contact) |
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 473 (In Vitro Mammalian Chromosome Aberration Test) | Negative |
| Germ cell mutagenicity: | | | | | OECD 477 (Genetic Toxicology - Sex-Linked Recessive Lethal Test in Drosophilia melanogaster) | Negative |
| Carcinogenicity: | NOAEC | 47000 | mg/m3 | Rat | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Negative |
| Reproductive toxicity: | NOAEL | 5000 | ppm | Rat | OECD 414 (Prenatal Developmental Toxicity Study) | |
| Specific target organ toxicity - repeated exposure (STOT-RE): | NOAEC | 47106 | mg/kg | Rat | OECD 452 (Chronic Toxicity Studies) | Negative(2 a) |
| Aspiration hazard: | | | | | | No |

| | | | | | | |
|---|---|---|---|---|---|---|
| Symptoms: | | | | | | unconsciousness, headaches, mucous membrane irritation, dizziness, nausea and vomiting., frostbite, gastrointestinal disturbances, respiratory distress, circulatory collapse |

| **Isobutane** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by inhalation: | LC50 | 658 | mg/l/4h | Rat | | |
| Acute toxicity, by inhalation: | LC50 | 260000 | ppmV/4h | Rat | | Gasses, Male |
| Serious eye damage/irritation: | | | | Rabbit | | Not irritant |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Aspiration hazard: | | | | | | No |
| Symptoms: | | | | | | unconsciousness, frostbite, headaches, cramps, dizziness, nausea and vomiting. |
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | NOAEL | 21,394 | mg/l | Rat | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | |

| **Propane** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |

| | | | | | | |
|---|---|---|---|---|---|---|
| Acute toxicity, by inhalation: | LC50 | 658 | mg/l/4h | Rat | | |
| Acute toxicity, by inhalation: | LC50 | 260000 | ppmV/4h | Rat | | Gasses, Male, Analogous conclusion |
| Skin corrosion/irritation: | | | | | | Not irritant |
| Serious eye damage/irritation: | | | | | | Not irritant |
| Germ cell mutagenicity: | | | | | OECD 473 (In Vitro Mammalian Chromosome Aberration Test) | Negative |
| Germ cell mutagenicity: | | | | Salmonella typhimurium | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Reproductive toxicity (Developmental toxicity): | NOAEC | 21,641 | mg/l | | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | |
| Aspiration hazard: | | | | | | No |
| Symptoms: | | | | | | breathing difficulties, unconsciousness, frostbite, headaches, cramps, mucous membrane irritation, dizziness, nausea and vomiting. |
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | NOAEL | 7,214 | mg/l | Rat | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Specific target organ toxicity - repeated exposure (STOT-RE), inhalat.: | LOAEL | 21,641 | mg/l | Rat | OECD 422 (Combined Repeated Dose Tox. Study with the Reproduction/Developm. Tox. Screening Test) | |

## SECTION 12: Ecological information

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

| **PU GUN FOAM 4W B2 500 ML<br>Art.: 9006339** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | | | | | | | n.d.a. |
| 12.1. Toxicity to daphnia: | | | | | | | n.d.a. |
| 12.1. Toxicity to algae: | | | | | | | n.d.a. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12.2. Persistence and degradability: | | | | | | | With water at the interface, transforms slowly with formation of CO2 into a firm, insoluble reaction product with a high melting point (polycarbamide). According to experience available to date, polycarbamide is inert and non-degradable. Mechanical precipitation possible. |
| 12.3. Bioaccumulative potential: | | | | | | | n.d.a. |
| 12.4. Mobility in soil: | | | | | | | n.d.a. |
| 12.5. Results of PBT and vPvB assessment | | | | | | | n.d.a. |
| 12.6. Other adverse effects: | | | | | | | n.d.a. |
| Other information: | | | | | | | Contains organically bound halogens, which may contribute to the AOX value in wastewater. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Other information: | | | | | | | DOC-elimination degree(complexing organic substance)>= 80%/28d: n.a. |
| Ozone depletion potential (ODP): | | | | | | | Does not degrade ozone. |

| **Diphenylmethanediisocyanate, isomeres and homologues** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | LC50 | 96h | >1000 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | |
| 12.1. Toxicity to daphnia: | NOEC/NOEL | 21d | >10 | mg/l | Daphnia magna | OECD 211 (Daphnia magna Reproduction Test) | |
| 12.1. Toxicity to daphnia: | EC50 | 24h | >1000 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| 12.1. Toxicity to algae: | EC50 | 72h | >1640 | mg/l | Scenedesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test) | |
| 12.2. Persistence and degradability: | | 28d | 0 | % | | OECD 301 C (Ready Biodegradability - Modified MITI Test (I)) | Not biodegradable |
| 12.3. Bioaccumulative potential: | BCF | 42d | <14 | | Cyprinus caprio | OECD 305 (Bioconcentration - Flow-Through Fish Test) | A notable biological accumulation potential is not to be expected (LogPow 1-3). |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Toxicity to bacteria: | EC50 | 3h | >100 | mg/l | activated sludge | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | |
| Other organisms: | NOEC/NOEL | 14d | >1000 | mg/kg | Eisenia foetida | OECD 207 (Earthworm, Acute Toxicity Tests) | |
| Other information: | BOD | 28d | <10 | % | | OECD 302 C (Inherent Biodegradability - Modified MITI Test (II)) | |
| Other information: | | | | | | | Does not contain any organically bound halogens which can contribute to the AOX value in waste water. |

| **Tris(2-chlorisopropyl)phosphate** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | LC50 | 96h | 56,2 | mg/l | Brachydanio rerio | | |
| 12.1. Toxicity to fish: | LC50 | 96h | 98 | mg/l | Pimephales promelas | | |
| 12.1. Toxicity to daphnia: | LC50 | 48h | 65-335 | mg/l | | | |
| 12.1. Toxicity to algae: | NOEC/NOEL | 96h | 6 | mg/l | Selenastrum capricornutum | | |
| 12.2. Persistence and degradability: | | | | | | | Not readily biodegradable |
| 12.3. Bioaccumulative potential: | BCF | | 0,8-4,6 | | Cyprinus caprio | | |
| 12.3. Bioaccumulative potential: | Log Pow | | 2,59 | | | | |

| **Dimethyl ether** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.1. Toxicity to fish: | LC0 | 96h | 2695 | mg/l | Pimephales promelas | | |
| 12.1. Toxicity to fish: | LC50 | 96h | 3082 | mg/l | Salmo gairdneri | | |
| 12.1. Toxicity to fish: | LC50 | 96h | >4,1 | mg/l | Poecilia reticulata | | |
| 12.1. Toxicity to daphnia: | EC50 | 48h | >4,4 | mg/l | Daphnia magna | | |
| 12.1. Toxicity to algae: | EC50 | 96h | 154,9 | mg/l | Chlorella vulgaris | | |
| 12.2. Persistence and degradability: | | 28d | 5 | % | | OECD 301 D (Ready Biodegradability - Closed Bottle Test) | Not readily biodegradable |
| 12.3. Bioaccumulative potential: | Log Pow | | -0,07 | | | | Bioaccumulation is unlikely (LogPow < 1). 25°C (pH 7) |
| 12.4. Mobility in soil: | H (Henry) | | 518,6 | Pa*m3/mol | | | No adsorption in soil. |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |
| Toxicity to bacteria: | EC10 | | >1600 | mg/l | Pseudomonas putida | | |
| Other information: | | | | | | | Does not contain any organically bound halogens which can contribute to the AOX value in waste water.DIN EN 1485 |
| Water solubility: | | | 45,60 | mg/l | | | 25°C |

| **Isobutane** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 12.3. Bioaccumulative potential: | | | | | | | A notable biological accumulation potential is not to be expected (LogPow 1-3). |
| 12.1. Toxicity to fish: | LC50 | 96h | 27,98 | mg/l | | | |
| 12.1. Toxicity to algae: | EC50 | 96h | 7,71 | mg/l | | | |
| 12.2. Persistence and degradability: | | | | | | | Readily biodegradable |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |

| **Propane** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| 12.3. Bioaccumulative potential: | Log Pow | | 2,28 | | | | A notable biological accumulation potential is not to be expected (LogPow 1-3). |
| 12.5. Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods**
**For the substance / mixture / residual amounts**
EC disposal code no.:
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)
08 04 09 waste adhesives and sealants containing organic solvents or other hazardous substances
08 05 01 waste isocyanates
16 05 04 gases in pressure containers (including halons) containing hazardous substances
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
Take full aerosol cans to problem waste collection.

Take emptied aerosol cans to valuable material collection.
**For contaminated packing material**
Pay attention to local and national official regulations.
Do not perforate, cut up or weld uncleaned container.
15 01 10 packaging containing residues of or contaminated by hazardous substances

## SECTION 14: Transport information

**General statements**

| | |
|---|---|
| 14.1. UN number: | 1950 |

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

14.2. UN proper shipping name:
UN 1950 AEROSOLS

| | |
|---|---|
| 14.3. Transport hazard class(es): | 2.1 |
| 14.4. Packing group: | - |
| Classification code: | 5F |
| LQ: | 1 L |
| 14.5. Environmental hazards: | Not applicable |
| Tunnel restriction code: | D |

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

14.2. UN proper shipping name:
AEROSOLS

| | |
|---|---|
| 14.3. Transport hazard class(es): | 2.1 |
| 14.4. Packing group: | - |
| EmS: | F-D, S-U |
| Marine Pollutant: | n.a |
| 14.5. Environmental hazards: | Not applicable |

**Transport by air (IATA)**

14.2. UN proper shipping name:
Aerosols, flammable

| | |
|---|---|
| 14.3. Transport hazard class(es): | 2.1 |
| 14.4. Packing group: | - |
| 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. Transport in bulk according to Annex II of MARPOL and the IBC Code**
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)!
Regulation (EC) No 1907/2006, Annex XVII
Diphenylmethanediisocyanate, isomeres and homologues
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 |
|---|---|---|---|
| P3a | 11.1 | 150 (netto) | 500 (netto) |

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 2012/18/EU ("Seveso III"), Annex I, Part 2 - This product contains the substances listed below:

| Entry Nr | Dangerous substances | Notes to Annex I | Qualifying quantity (tonnes) for the application of - Lower-tier requirements | Qualifying quantity (tonnes) for the application of - Upper-tier requirements |
|---|---|---|---|---|
| 18 | Liquefied flammable gases, Category 1 or 2 (including LPG) and natural gas | 19 | 50 | 200 |

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): 16,27 %

Observe incident regulations.

**15.2 Chemical safety assessment**
A chemical safety assessment is not provided for mixtures.

**SECTION 16: Other information**

Revised sections: 3

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.

**Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):**

| Classification in accordance with regulation (EC) No. 1272/2008 (CLP) | Evaluation method used |
|---|---|
| Acute Tox. 4, H332 | Classification according to calculation procedure. |
| Eye Irrit. 2, H319 | Classification according to calculation procedure. |
| STOT SE 3, H335 | Classification according to calculation procedure. |
| Skin Irrit. 2, H315 | Classification according to calculation procedure. |
| Resp. Sens. 1, H334 | Classification according to calculation procedure. |
| Skin Sens. 1, H317 | Classification according to calculation procedure. |
| STOT RE 2, H373 | Classification according to calculation procedure. |
| Carc. 2, H351 | Classification according to calculation procedure. |
| Aerosol 1, H222 | Classification based on test data. |
| Aerosol 1, H229 | Classification based on test data. |

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).
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
H220 Extremely flammable gas.

Acute Tox. — Acute toxicity - inhalation
Eye Irrit. — Eye irritation
STOT SE — Specific target organ toxicity - single exposure - respiratory tract irritation
Skin Irrit. — Skin irritation
Resp. Sens. — Respiratory sensitization
Skin Sens. — Skin sensitization
STOT RE — Specific target organ toxicity - repeated exposure
Carc. — Carcinogenicity
Aerosol — Aerosols
Acute Tox. — Acute toxicity - oral
Flam. Gas — Flammable gases - Flammable gas

**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)
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)
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
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency
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)
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
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)
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
OECD Organisation for Economic Co-operation and Development
org. organic
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
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.