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

*Printing date 13.05.2013* *V - 5* *Revision: 13.05.2013*

* 
## 1 Identification of the substance/mixture and of the company/undertaking

· **Product identifier**

· **Trade name: PU-SYSTEM G4 Grundierung**
· **Relevant identified uses of the substance or mixture and uses advised against** Not determined
· **Application of the substance / the preparation**
Priming
Polyurethane lacquer

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Vosschemie GmbH
Esinger Steinweg 50
D-25436 Uetersen
Phone: +49 (0)4122 717 0; Fax: +49 (0)4122 717158; info@vosschemie.de

· **Further information obtainable from:**
Abteilung Labor / +49 (0)4122 717 0
s.schaller@vosschemie.de
· **Emergency telephone number:**
Giftinformationszentrum (GIZ)-Nord, Goettingen, Deutschland
Phone: +49 (0)551 19240, +49 (0)551 383180

·

## 2 Hazards identification

· **Classification of the substance or mixture**

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**


Xn; Harmful

R20/21-40-48/20: Harmful by inhalation and in contact with skin. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation.


Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

(Contd. on page 2)

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

*Printing date 13.05.2013* *V - 5* *Revision: 13.05.2013*

***Trade name: PU-SYSTEM G4 Grundierung***

(Contd. of page 1)

*Xi; Irritant*

*R36/37/38:* *Irritating to eyes, respiratory system and skin.*

*R10-52/53:* *Flammable. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*

· ***Information concerning particular hazards for human and environment:***
*The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.*

· ***Classification system:***
*The classification is according to the latest editions of the EU-lists, and extended by company and literature data.*

· ***Label elements***

· ***Labelling according to EU guidelines:***
*The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.*

· ***Code letter and hazard designation of product:***

*Xn Harmful*

· ***Hazard-determining components of labelling:***
*diphenylmethanediisocyanate,isomeres and homologues*
*xylene, mixture of isomers*

· ***Risk phrases:***
*10* *Flammable.*
*20/21* *Harmful by inhalation and in contact with skin.*
*36/37/38* *Irritating to eyes, respiratory system and skin.*
*40* *Limited evidence of a carcinogenic effect.*
*42/43* *May cause sensitisation by inhalation and skin contact.*
*48/20* *Harmful: danger of serious damage to health by prolonged exposure through inhalation.*
*52/53* *Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*

· ***Safety phrases:***
*1/2* *Keep locked up and out of the reach of children.*
*23* *Do not breathe vapour/spray.*
*25* *Avoid contact with eyes.*
*29/56* *Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.*
*36/37* *Wear suitable protective clothing and gloves.*
*38* *In case of insufficient ventilation, wear suitable respiratory equipment.*
*45* *In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).*
*51* *Use only in well-ventilated areas.*
*63* *In case of accident by inhalation: remove casualty to fresh air and keep at rest.*

· ***Special labelling of certain preparations:***
*Contains isocyanates. See information supplied by the manufacturer*

· ***Other hazards***
*Persons already sensitised to diisocyanates may develop allergic reactions when using this product.*

(Contd. on page 3)

(Contd. of page 2)

*Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.*
*This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.*
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

| | | |
|---|---|---|
| CAS: 9016-87-9<br>EC number: 618-498-9 | diphenylmethanediisocyanate,isomeres and homologues<br>Xn R20-40-48/20; Xn R42/43; Xi R36/37/38<br>Carc. Cat. 3<br>Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335 | 25-50% |
| CAS: 1330-20-7<br>EINECS: 215-535-7<br>Reg.nr.: 01-2119486136-34<br>01-2119488216-32 | xylene, mixture of isomers<br>Xn R20/21; Xi R38<br>R10<br>Flam. Liq. 3, H226; STOT RE 2, H373; Asp. Tox. 1, H304; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 | 25-50% |
| CAS: 64742-95-6<br>EC number: 918-668-5<br>Reg.nr.: 01-2119455851-35 | Hydrocarbons, C9, aromatics<br>Xn R65; Xi R37; N R51/53<br>R10-66-67<br>Flam. Liq. 3, H226; Asp. Tox. 1, H304; Aquatic Chronic 2, H411; STOT SE 3, H335-H336 | 10-25% |
| CAS: 25322-69-4<br>NLP: 500-039-8 | Propane-1,2-diol, propoxylated<br>Xn R22<br>Acute Tox. 4, H302 | 10-25% |
| CAS: 100-41-4<br>EINECS: 202-849-4<br>Reg.nr.: 01-2119489370-35<br>02-2119752523-40 | ethylbenzene<br>Xn R20; F R11<br>Flam. Liq. 2, H225; Acute Tox. 4, H332 | 2.5-10% |

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

## 4 First aid measures

· **Description of first aid measures**
· **General information:**
*Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*
*Personal protection for the First Aider.*
*Take affected persons out of danger area and lay down.*
*In case of irregular breathing or respiratory arrest provide artificial respiration.*
*Immediately remove any clothing soiled by the product.*
· **After inhalation:**
*Supply fresh air or oxygen; call for doctor.*

(Contd. on page 4)

(Contd. of page 3)

*In case of unconsciousness place patient stably in side position for transportation.*
· ***After skin contact:***
*Immediately wash with water and soap and rinse thoroughly.*
*Use skin protection cream for skin protection.*
*If skin irritation continues, consult a doctor.*
· ***After eye contact:***
*Rinse opened eye for several minutes under running water. Then consult a doctor.*
*Call a doctor immediately.*
· ***After swallowing:*** *Do not induce vomiting; call for medical help immediately.*
· ***Information for doctor:***
· ***Most important symptoms and effects, both acute and delayed*** *No further relevant information available.*
· ***Indication of any immediate medical attention and special treatment needed***
*No further relevant information available.*

## *5 Firefighting measures*

· ***Extinguishing media***
· ***Suitable extinguishing agents:***
*CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.*
*Violent reaction with water at higher temperatures.*
· ***For safety reasons unsuitable extinguishing agents:*** *Water with full jet*
· ***Special hazards arising from the substance or mixture***
*Formation of toxic gases is possible during heating or in case of fire.*
*Carbon monoxide and carbon dioxide*
*Nitrogen oxides (NOx)*
*Hydrogen cyanide (HCN)*
· ***Advice for firefighters***
· ***Protective equipment:***
*Wear self-contained respiratory protective device.*
*Wear fully protective suit.*
*Do not inhale explosion gases or combustion gases.*
· ***Additional information***
*Cool endangered receptacles with water spray.*
*Collect contaminated fire fighting water separately. It must not enter the sewage system.*
*Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.*

## *6 Accidental release measures*

· ***Personal precautions, protective equipment and emergency procedures***
*Wear protective equipment. Keep unprotected persons away.*
*Avoid contact with the eyes and skin.*
*Ensure adequate ventilation*
*Do not inhale gases / fumes / aerosols.*
*Use respiratory protective device against the effects of fumes/dust/aerosol.*
*Keep away from ignition sources.*
· ***Environmental precautions:***
*Do not allow to enter sewers/ surface or ground water.*
*Inform respective authorities in case of seepage into water course or sewage system.*
· ***Methods and material for containment and cleaning up:***
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).*
*Pls. refer to section 10*
*Do not seal receptacle gas tight.*
*Danger of bursting.*

(Contd. on page 5)

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

*Printing date 13.05.2013* *V - 5* *Revision: 13.05.2013*

***Trade name: PU-SYSTEM G4 Grundierung***

(Contd. of page 4)

*Dispose contaminated material as waste according to item 13.*

· ***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.*

## *7 Handling and storage*

· ***Handling:***
· ***Precautions for safe handling***
*Keep receptacles tightly sealed.*
*Ensure good ventilation/exhaustion at the workplace.*
*Avoid contact with the eyes and skin.*
*Do not inhale gases / fumes / aerosols.*
*Use respiratory protective device against the effects of fumes/dust/aerosol.*
· ***Information about fire - and explosion protection:***
*Keep ignition sources away - Do not smoke.*
*Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration.*
*Fumes can combine with air to form an explosive mixture.*
*Protect against electrostatic charges.*
*Use explosion-proof apparatus / fittings and spark-proof tools.*

· ***Conditions for safe storage, including any incompatibilities***
· ***Storage:***
· ***Requirements to be met by storerooms and receptacles:***
*Store only in the original receptacle.*
*Adhere to the provisions of the Law on Water Protection.*
· ***Information about storage in one common storage facility:***
*Pls. refer to section 10*
*Keep away from foodstuffs, beverages and feed.*
· ***Further information about storage conditions:***
*Store in cool, dry conditions in well sealed receptacles.*
*Store receptacle in a well ventilated area.*
*Protect from heat and direct sunlight.*
*Keep ignition sources away - Do not smoke.*
*Anti-explosion protection required*
· ***Recommended storage temperature:*** *+15 °C - +25 °C*
· ***Specific end use(s)*** *No further relevant information available.*

* 

## *8 Exposure controls/personal protection*

· ***Additional information about design of technical facilities:*** *No further data; see item 7.*

· ***Control parameters***

| · ***Ingredients with limit values that require monitoring at the workplace:*** | |
|---|---|
| ***9016-87-9 diphenylmethanediisocyanate,isomeres and homologues*** | |
| *WEL (Great Britain)* | *Short-term value: 0.07 mg/m³*<br>*Long-term value: 0.02 mg/m³*<br>*Sen; as -NCO* |

(Contd. on page 6)

(Contd. of page 5)

| **1330-20-7 xylene, mixture of isomers** | |
|---|---|
| WEL (Great Britain) | Short-term value: 441 mg/m³, 100 ppm<br>Long-term value: 220 mg/m³, 50 ppm<br>Sk; BMGV |
| IOELV (EU) | Short-term value: 442 mg/m³, 100 ppm<br>Long-term value: 221 mg/m³, 50 ppm<br>Skin |
| **100-41-4 ethylbenzene** | |
| WEL (Great Britain) | Short-term value: 552 mg/m³, 125 ppm<br>Long-term value: 441 mg/m³, 100 ppm |
| IOELV (EU) | Short-term value: 884 mg/m³, 200 ppm<br>Long-term value: 442 mg/m³, 100 ppm<br>Skin |

· **DNELs**

| **1330-20-7 xylene, mixture of isomers** | | |
|---|---|---|
| Oral | Long-term exposure - systemic effects | 1.6 mg/kg bw/day (general population) |
| Dermal | Long-term exposure - systemic effects | 108 mg/kg bw/day (general population) |
| | | 180 mg/kg bw/day (worker) |
| Inhalative | Acute/short-term exposure - local effects | 174 mg/m³ (general population) |
| | | 289 mg/m³ (worker) |
| | Acute/short-term exposure - systemic effects | 174 mg/m³ (general population) |
| | | 289 mg/m³ (worker) |
| | Long-term exposure - systemic effects | 14.8 mg/m³ (general population) |
| | | 77 mg/m³ (worker) |
| **64742-95-6 Hydrocarbons, C9, aromatics** | | |
| Oral | Long-term exposure - systemic effects | 11 mg/kg bw/day (general population) |
| Dermal | Long-term exposure - systemic effects | 11 mg/kg bw/day (general population) |
| | | 25 mg/kg bw/day (worker) |
| Inhalative | Long-term exposure - systemic effects | 32 mg/m³ (general population) |
| | | 150 mg/m³ (worker) |
| **100-41-4 ethylbenzene** | | |
| Oral | Long-term exposure - systemic effects | 1.6 mg/kg bw/day (general population) |
| Dermal | Long-term exposure - systemic effects | 180 mg/kg bw/day (worker) |
| Inhalative | Acute/short-term exposure - local effects | 293 mg/m³ (worker) |
| | Long-term exposure - systemic effects | 15 mg/m³ (general population) |
| | | 77 mg/m³ (worker) |

· **PNECs**

| **1330-20-7 xylene, mixture of isomers** | |
|---|---|
| PNEC STP | 6.58 mg/l (-) |
| PNEC aqua | 0.327 mg/l (freshwater) |
| | 0.327 mg/l (marine water) |
| | 0.327 mg/l (intermittent releases) |
| PNEC sediment | 12.46 mg/kg (freshwater) |
| | 12.46 mg/kg (marine water) |

(Contd. on page 7)

(Contd. of page 6)

| ***100-41-4 ethylbenzene*** | |
|---|---|
| *PNEC STP* | *9.6 mg/l (-)* |
| *PNEC aqua* | *0.1 mg/l (freshwater)* |
| | *0.01 mg/l (marine water)* |
| | *0.1 mg/l (intermittent releases)* |
| *PNEC oral* | *0.02 mg/kg (-)* |
| *PNEC sediment* | *13.7 mg/kg (freshwater)* |
| | *2.68 mg/kg (marine water)* |
| *PNEC soil* | *2.68 mg/kg (soil dw)* |

· ***Additional information:*** *The lists valid during the making were used as basis.*

· ***Exposure controls***
· ***Personal protective equipment:***
· ***General protective and hygienic measures:***
*Keep away from foodstuffs, beverages and feed.*
*Do not eat, drink, smoke or sniff while working.*
*Store protective clothing separately.*
*Immediately remove all soiled and contaminated clothing*
*Wash hands before breaks and at the end of work.*
*Use skin protection cream for skin protection.*
*Avoid contact with the eyes and skin.*
· ***Respiratory protection:***
*Adhere to the workplace limit values and / or other threshold values.*
*Use respiratory protective device against the effects of fumes/dust/aerosol.*
*Use suitable respiratory protective device in case of insufficient ventilation.*
*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*
*Filter A/P2*
· ***Protection of hands:***

*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*
*Check the permeability prior to each anewed use of the glove.*
*Preventive skin protection by use of skin-protecting agents is recommended.*
· ***Material of gloves***
*Fluorocarbon rubber (Viton)*
*Empfohlene Materialstärke: ≥ 0.4 mm*
*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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*
· ***Penetration time of glove material***
*For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 6).*
*The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.*

(Contd. on page 8)

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

*Printing date 13.05.2013* *V - 5* *Revision: 13.05.2013*

***Trade name: PU-SYSTEM G4 Grundierung***

(Contd. of page 7)

· ***Eye protection:***

*Tightly sealed goggles*

· ***Body protection:*** *Protective work clothing*

* 

## *9 Physical and chemical properties*

| | |
|---|---|
| · ***Information on basic physical and chemical properties*** | |
| · ***General Information*** | |
| · ***Appearance:*** | |
| ***Form:*** | *Fluid* |
| ***Colour:*** | *Brown* |
| · ***Odour:*** | *Like aromates* |
| · ***Change in condition*** | |
| ***Melting point/Melting range:*** | *Undetermined.* |
| ***Boiling point/Boiling range:*** | *137 °C* |
| · ***Flash point:*** | *30 °C* |
| · ***Ignition temperature:*** | *355 °C* |
| · ***Danger of explosion:*** | *Product is not explosive. However, formation of explosive air/vapour mixtures are possible.* |
| · ***Explosion limits:*** | |
| ***Lower:*** | *0.7 Vol %* |
| ***Upper:*** | *7.5 Vol %* |
| · ***Density at 20 °C:*** | *1 g/cm³* |
| · ***Solubility in / Miscibility with water:*** | *Not miscible or difficult to mix.* |
| · ***Viscosity:*** | |
| ***Kinematic at 23 °C:*** | *~14 s (DIN 53224 6mm)* |
| · ***Other information*** | *No further relevant information available.* |

* 

## *10 Stability and reactivity*

· ***Reactivity*** *No decomposition if used according to specifications.*
· ***Chemical stability*** *No decomposition if used and stored according to specifications.*
· ***Possibility of hazardous reactions***
*Fumes can combine with air to form an explosive mixture.*
*Reacts with numerous chemical compounds, especially those with mobile hydrogen atoms.*
*Reacts with alcohols, amines, aqueous acids and alkalis.*
*Reacts with water.*
*Do not seal receptacle gas tight.*
*Danger of bursting.*
· ***Conditions to avoid*** *No further relevant information available.*
· ***Incompatible materials:*** *No further relevant information available.*

(Contd. on page 9)

(Contd. of page 8)

· ***Hazardous decomposition products:*** *Formation of toxic gases is possible during heating or in case of fire.*

* 

## *11 Toxicological information*

· ***Information on toxicological effects***
· ***Acute toxicity:***

| · ***LD/LC50 values relevant for classification:*** | | |
|---|---|---|
| ***9016-87-9 diphenylmethanediisocyanate,isomeres and homologues*** | | |
| *Oral* | *LD 50* | *> 10000 mg/kg (rat) (OECD 401)* |
| *Dermal* | *LD 50* | *> 9400 mg/kg (rabbit) (OECD 402)* |
| *Inhalative* | *LC 50 / 4h* | *1.5 mg/l (rat) (expert assessment, Dust/Mist)* |
| | *LC50 /4h* | *310 mg/m³ (rat) (OECD-403, Aerosol)* |
| ***1330-20-7 xylene, mixture of isomers*** | | |
| *Oral* | *LD 50* | *> 4000 mg/kg (rat)* |
| *Dermal* | *LD 50* | *> 1700 mg/kg (rabbit)* |
| *Inhalative* | *LC 50 / 4h* | *21.7 mg/l (rat) (Vapour)* |
| | *LC50 /4h* | *5000 ppm (rat) (Gas)* |
| ***64742-95-6 Hydrocarbons, C9, aromatics*** | | |
| *Oral* | *LD 50* | *> 3500 mg/kg (rat) (OECD 401)* |
| *Dermal* | *LD 50* | *> 3160 mg/kg (rabbit) (OECD 402)* |
| *Inhalative* | *LC50 /4h* | *> 6193 mg/m³ (rat)* |
| ***25322-69-4 Propane-1,2-diol, propoxylated*** | | |
| *Oral* | *LD 50* | *>500 - < 2000 mg/kg (rat)* |
| ***100-41-4 ethylbenzene*** | | |
| *Oral* | *LD50* | *3500 mg/kg (rat)* |
| *Dermal* | *LD 50* | *> 5000 mg/kg (rabbit)* |
| *Inhalative* | *LC50 /4h* | *17.2 mg/l (rat)* |

· ***Primary irritant effect:***
· ***on the skin:*** *Irritant to skin and mucous membranes.*
· ***on the eye:*** *Irritating effect.*

| · ***Subacute to chronic toxicity:*** | | |
|---|---|---|
| ***9016-87-9 diphenylmethanediisocyanate,isomeres and homologues*** | | |
| *Inhalative* | *LOAEL* | *1 mg/m³ (rat) (OECD 453, 2 a, 6h/day, Aerosol)* |
| | *NOAEL* | *0.2 mg/m³ (rat) (OECD 453, 2 a, 6h/day, Aerosol)* |

· ***Additional toxicological information:***
*The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:*
*Harmful*
*Irritant*
· ***Sensitisation*** *May cause sensitisation by inhalation and skin contact.*
· ***CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)***
*Limited evidence of a carcinogenic effect.*

| · ***Carcinogenicity*** | | |
|---|---|---|
| ***9016-87-9 diphenylmethanediisocyanate,isomeres and homologues*** | | |
| *Inhalative* | *LOAEL (carcinogenicity)* | *6 mg/m³ (rat) (OECD 453, 2a, 6h/day, Aerosol)* |

(Contd. on page 10)

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

*Printing date 13.05.2013* *V - 5* *Revision: 13.05.2013*

**Trade name: PU-SYSTEM G4 Grundierung**

(Contd. of page 9)

· **Reproductive toxicity/Fertility** No further relevant information available.

| · **Reproductive toxicity/Teratogenicity** | | |
|---|---|---|
| **9016-87-9 diphenylmethanediisocyanate,isomeres and homologues** | | |
| Inhalative | NOAEL (developmental toxicity) | 0.004 mg/l (rat) (OECD 414, 20d, 6h/day, Aerosol) |
| | NOAEL (teratogenicity) | 0.012 mg/l (rat) (OECD 414, 20d, 6h/day, Aerosol) |
| | NOAEL (maternally) | 0.004 mg/l (rat) (OECD 414, 20d, 6h/day, Aerosol) |

* 

## 12 Ecological information

· **Toxicity**

| · **Aquatic toxicity:** | |
|---|---|
| **9016-87-9 diphenylmethanediisocyanate,isomeres and homologues** | |
| EC50 | > 1000 mg/l (daphnia magna) (24h, OECD 202) |
| EC50/3h | > 100 mg/l (activated slugde) (OECD 209) |
| EC50/72h | > 1640 mg/l (scenedesmus subspicatus) (OECD-201) |
| LC50/96h (static) | > 1000 mg/l (danio rerio) (OECD 203) |
| NOEC | > 10 mg/l (daphnia magna) (21 d, OECD 202) |
| **1330-20-7 xylene, mixture of isomers** | |
| EC50 | > 175 mg/l (activated slugde) |
| EC50/48h | 3.82 mg/l (daphnia magna) |
| EC50/72h | 4.7 mg/l (Pseudokirchneriella subcapitata) |
| LC50/96h | 7.6 mg/l (oncorhynchus mykiss) |
| NOEC | > 1.3 mg/l (oncorhynchus mykiss) (56 d) |
| **64742-95-6 Hydrocarbons, C9, aromatics** | |
| EL50/48h | 3.2 mg/l (daphnia) |
| EL50/72h | 2.9 mg/l (Pseudokirchneriella subcapitata) |
| LL50/96h | 9.2 mg/l (oncorhynchus aguabonita) |
| **25322-69-4 Propane-1,2-diol, propoxylated** | |
| EC0/72h | ≥ 100 mg/l (desmodesmus subspicatus) (OECD 201) |
| EC50/3h | > 1000 mg/l (activated slugde) (OECD 209) |
| EC50/48h | > 100 mg/l (daphnia) (OECD 202) |
| LC50 | > 100 mg/l (danio rerio) (48h) |
| LC50/96h | > 100 mg/l (poecilia reticulata) (OECD 203) |
| **100-41-4 ethylbenzene** | |
| EC50/48h | 2.4 mg/l (daphnia magna) |
| | > 5.2 mg/l (americamysis bahia) |
| EC50/72h | 4.6 mg/l (Pseudokirchneriella subcapitata) |
| LC50/96h | 4.2 mg/l (oncorhynchus mykiss) |

| · **Persistence and degradability** | |
|---|---|
| **9016-87-9 diphenylmethanediisocyanate,isomeres and homologues** | |
| BSB | <10 % (activated slugde) (OECD 302 C) |
| Biodegradation | 0 % (activated slugde) (28d, OECD 302 C) |

(Contd. on page 11)

(Contd. of page 10)

| | |
|---|---|
| **1330-20-7 xylene, mixture of isomers** | |
| Biodegradation | 87.8 % (-) (28d) |
| **64742-95-6 Hydrocarbons, C9, aromatics** | |
| Biodegradation | > 70 % (-) (28d) |
| **25322-69-4 Propane-1,2-diol, propoxylated** | |
| Biodegradation | > 60 % (-) (OECD 301 F) |
| **100-41-4 ethylbenzene** | |
| Biodegradation | > 70 % (-) (28 d) |

· **Behaviour in environmental systems:**

| · **Bioaccumulative potential** | |
|---|---|
| **9016-87-9 diphenylmethanediisocyanate,isomeres and homologues** | |
| BCF | < 14 (Cyprinus carpio) (OECD 305 C, 42 d) |
| **1330-20-7 xylene, mixture of isomers** | |
| BCF | 6 - 23.4 (-) |
| log Pow | > 3 (-) |
| **100-41-4 ethylbenzene** | |
| log Pow | 3.1 (-) |

· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· **Waste disposal key:**
The waste codes given above are to be considered recommendations; because of regional and industrial sector specific features, application of different waste codes is possible.

| · **European waste catalogue** | |
|---|---|
| 08 01 11* | waste paint and varnish containing organic solvents or other dangerous substances |

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

## 14 Transport information

· **UN-Number**
· **ADR, IMDG, IATA** 1993

(Contd. on page 12)

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

*Printing date 13.05.2013* *V - 5* *Revision: 13.05.2013*

**Trade name: PU-SYSTEM G4 Grundierung**

(Contd. of page 11)

| | |
|---|---|
| · **UN proper shipping name** | |
| · **ADR** | 1993 FLAMMABLE LIQUID, N.O.S. (XYLENES, Solvent naphtha (petroleum), light arom.) |
| · **IMDG, IATA** | FLAMMABLE LIQUID, N.O.S. (XYLENES, Solvent naphtha (petroleum), light arom.) |
| · **Transport hazard class(es)** | |
| · **ADR, IMDG, IATA** | |
| · **Class** | 3 Flammable liquids. |
| · **Packing group** | |
| · **ADR, IMDG, IATA** | III |
| · **Environmental hazards:** | |
| · **Marine pollutant:** | No |
| · **Special precautions for user** | Warning: Flammable liquids. |
| · **EMS Number:** | F-E,S-E |
| · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

* 
## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **European regulations**
· **Directive 2004/42/EC** 2004/42/IIA (i) (500) 494

· **National regulations:**

· **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
· **Other regulations, limitations and prohibitive regulations**
REACH ((EC) No 1907/2006), Annex XVII, no 56.
Adhere to the Ordinances on the Prohibition of Certain Chemicals.
· **Please note:** TRGS 905
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 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.

· **Relevant phrases**
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
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.

(Contd. on page 13)

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

*Printing date 13.05.2013* *V - 5* *Revision: 13.05.2013*

***Trade name: PU-SYSTEM G4 Grundierung***

(Contd. of page 12)

| | |
|---|---|
| *H335* | *May cause respiratory irritation.* |
| *H336* | *May cause drowsiness or dizziness.* |
| *H351* | *Suspected of causing cancer.* |
| *H373* | *May cause damage to the lung through prolonged or repeated exposure. Route of exposure: Inhalative.* |
| *H411* | *Toxic to aquatic life with long lasting effects.* |

| | |
|---|---|
| *R10* | *Flammable.* |
| *R11* | *Highly flammable.* |
| *R20* | *Harmful by inhalation.* |
| *R20/21* | *Harmful by inhalation and in contact with skin.* |
| *R22* | *Harmful if swallowed.* |
| *R36/37/38* | *Irritating to eyes, respiratory system and skin.* |
| *R37* | *Irritating to respiratory system.* |
| *R38* | *Irritating to skin.* |
| *R40* | *Limited evidence of a carcinogenic effect.* |
| *R42/43* | *May cause sensitisation by inhalation and skin contact.* |
| *R48/20* | *Harmful: danger of serious damage to health by prolonged exposure through inhalation.* |
| *R51/53* | *Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.* |
| *R65* | *Harmful: may cause lung damage if swallowed.* |
| *R66* | *Repeated exposure may cause skin dryness or cracking.* |
| *R67* | *Vapours may cause drowsiness and dizziness.* |

· ***Department issuing MSDS:*** *Abteilung Labor*
· ***Contact:*** *Frau S. Schaller*
· ***Abbreviations and acronyms:***
*RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
*ICAO: International Civil Aviation Organization*
*ADR: Accord européen sur le transport 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*
*DNEL: Derived No-Effect Level (REACH)*
*PNEC: Predicted No-Effect Concentration (REACH)*
*LC50: Lethal concentration, 50 percent*
*LD50: Lethal dose, 50 percent*
· **** Data compared to the previous version altered.***