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

Printing date 27.02.2020 Revision: 27.02.2020

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

· **1.1 Product identifier**

· **Trade name: Zettex PU 50**

· **Article number:**
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
· **1.2.1 Relevant identified uses**
· **Sector of Use**
SU3 Industrial uses: uses of substances as such or in preparations at industrial sites
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
· **Product category** PC1 Adhesives, sealants
· **Process category** PROC5 Mixing or blending in batch processes
· **Environmental release category** ERC5 Use at industrial site leading to inclusion into/onto article
· **Application of the substance / the preparation :** Polyurethane sealant

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Zettex Europe BV
· Plaza 20, 4782 SK Moerdijk
· The Netherlands
· +31(0)888-938839
· info@zettex.nl
· www.zettex.nl
· **Information department:** Laboratory
· **1.4 Emergency telephone number:** +31(0)888-938839

## SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**
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.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
· **Hazard pictograms**

GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**
4,4'-methylenediphenyl diisocyanate
reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate
· **Hazard statements**
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

(Contd. on page 2)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 1)

H317 May cause an allergic skin reaction.

· **Precautionary statements**
P261 Avoid breathing vapours.
P280 Wear protective gloves.
P284 In case of inadequate ventilation wear respiratory protection.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P501 Dispose of contents and container in accordance with local regulations.

· **Additional information :**
Contains isocyanates. May produce an allergic reaction.

· **Classification system** Non-irritating to rabbit's eye (method : OECD guideline 405)

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

* 
## SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

· **Description:** Adhesive containing a polyurethane prepolymer based on diphenylmethanediisocyanate

· **Dangerous components:**

| | | |
|---|---|---|
| CAS: 9002-86-2 | polyvinyl chloride<br>substance with a Community workplace exposure limit | 20-50% |
| CAS: 1330-20-7<br>EINECS: 215-535-7<br>Reg.nr.: 01-2119488216-32 | xylene, mixture of isomers<br>Flam. Liq. 3, H226; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315 | 4-7% |
| CAS: 13463-67-7<br>EINECS: 236-675-5<br>Reg.nr.: 01-2119489379-17 | titanium dioxide<br>substance with a Community workplace exposure limit | <5% |
| CAS: 1305-78-8<br>EINECS: 215-138-9<br>Reg.nr.: 01-2119475325-36 | calcium oxide<br>Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335 | <2% |
| CAS: 100-41-4<br>EINECS: 202-849-4<br>Reg.nr.: 01-2119489370-35 | ethylbenzene<br>Flam. Liq. 2, H225; STOT RE 2, H373; Asp. Tox. 1, H304; Acute Tox. 4, H332; Aquatic Chronic 3, H412 | <2% |
| EC number: 926-141-6<br>Reg.nr.: 01-2119456620-43 | hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics<br>Asp. Tox. 1, H304 | <2% |
| CAS: 1309-37-1<br>EINECS: 215-168-2<br>Reg.nr.: 01-2119457614-35 | diiron trioxide<br>substance with a Community workplace exposure limit | <2% |
| CAS: 1305-62-0<br>EINECS: 215-137-3<br>Reg.nr.: 01-2119475151-45 | calcium dihydroxide<br>Eye Dam. 1, H318; Skin Irrit. 2, H315 | <1% |
| CAS: 101-68-8<br>EINECS: 202-966-0<br>Reg.nr.: 01-2119457014-47 | 4,4'-methylenediphenyl diisocyanate<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 | <1% |
| CAS: 1333-86-4<br>EINECS: 215-609-9<br>Reg.nr.: 01-2119384822-32 | carbon black<br>substance with a Community workplace exposure limit | <0.5% |

(Contd. on page 3)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 2)

| | | |
|---|---|---|
| EC number: 915-687-0<br>Reg.nr.: 01-2119491304-40 | reaction mass of bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate<br>Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1A, H317 | <0.5% |

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

## SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information** Immediately remove any clothing soiled by the product.
· **After inhalation**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness, place patient stably in side position for transportation.
· **After skin contact** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **4.2 Most important symptoms and effects, both acute and delayed**
Drowsiness
Headache
Dizziness
Nausea
· **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

## SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents**
Carbon dioxide
Foam
Fire-extinguishing powder
· **For safety reasons unsuitable extinguishing agents** Water with full jet.
· **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
Nitrogen oxides (NOx)
In certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:
Hydrogen cyanide (HCN)
Isocyanates
· **5.3 Advice for firefighters**
· **Protective equipment:** Wear self-contained respiratory protective device.

## SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.
Keep away from ignition sources.
· **6.2 Environmental precautions:** Do not allow product to reach sewage system or any water course.
· **6.3 Methods and material for containment and cleaning up:**
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.

(Contd. on page 4)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 3)

*Do not close them (reaction with water forming carbon dioxide).*

· **6.4 Reference to other sections**
*See Section 7 for information on safe handling*
*See Section 8 for information on personal protection equipment.*
*See Section 13 for disposal information.*

## SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** *Ensure good ventilation/exhaustion at the workplace.*
· **Information about protection against explosions and fires:**
*Keep ignition sources away - Do not smoke.*

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:** *Provide ventilation for receptacles.*
· **Information about storage in one common storage facility:** *Not required.*
· **Further information about storage conditions:**
*Keep receptacle tightly sealed.*
*Store in dry conditions.*
*Store in a cool place.*
· **7.3 Specific end use(s)** *No further relevant information available.*

* 
## SECTION 8: Exposure controls/personal protection

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

· **8.1 Control parameters**

| · **Components with limit values that require monitoring at the workplace:** | |
|---|---|
| **9002-86-2 polyvinyl chloride** | |
| WEL | Long-term value: 10* 4** mg/m³<br>*inhalable dust **respirable dust |
| **1330-20-7 xylene, mixture of isomers** | |
| WEL | Short-term value: 441 mg/m³, 100 ppm<br>Long-term value: 220 mg/m³, 50 ppm<br>Sk; BMGV |
| **13463-67-7 titanium dioxide** | |
| WEL | Long-term value: 10* 4** mg/m³<br>*total inhalable **respirable |
| **1305-78-8 calcium oxide** | |
| WEL | Short-term value: 4* mg/m³<br>Long-term value: 2 1* mg/m³<br>*respirable fraction |
| **100-41-4 ethylbenzene** | |
| WEL | Short-term value: 552 mg/m³, 125 ppm<br>Long-term value: 441 mg/m³, 100 ppm<br>Sk |
| **hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, < 2% aromatics** | |
| RCP-TWA | Long-term value: 1200 mg/m³ |
| VME | Long-term value: 1200 mg/m³ |

(Contd. on page 5)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 4)

| | |
|---|---|
| **1309-37-1 diiron trioxide** | |
| WEL | Short-term value: 10* mg/m³<br>Long-term value: 5* 10** 4*** mg/m³<br>*fume (as Fe),**total respirable,***respirable |
| **1305-62-0 calcium dihydroxide** | |
| WEL | Short-term value: 4* mg/m³<br>Long-term value: 5 1* mg/m³<br>*resprable fraction |
| **101-68-8 4,4'-methylenediphenyl diisocyanate** | |
| WEL | Short-term value: 0.07 mg/m³<br>Long-term value: 0.02 mg/m³<br>Sen; as -NCO |
| **1333-86-4 carbon black** | |
| WEL | Short-term value: 7 mg/m³<br>Long-term value: 3.5 mg/m³ |

| · **Ingredients with biological limit values:** | |
|---|---|
| **1330-20-7 xylene, mixture of isomers** | |
| BMGV | 650 mmol/mol creatinine<br>Medium: urine<br>Sampling time: post shift<br>Parameter: methyl hippuric acid |
| **101-68-8 4,4'-methylenediphenyl diisocyanate** | |
| BMGV | 1 µmol creatinine/mol<br>Medium: urine<br>Sampling time: At the end of the period od exposure<br>Parameter: isocyanate-derived diamine |

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

· **8.2 Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
Wash hands before breaks and at the end of work.
Avoid close or long term contact with the skin.
Do not eat, drink, smoke while working.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Short term filter device:
Filter AB
· **Protection of hands:**
PVA gloves of superior quality.
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.
· **Eye protection:** Tightly sealed goggles.
· **Body protection:** Protective work clothing.



(Contd. on page 6)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 5)

## SECTION 9: Physical and chemical properties

| | |
|---|---|
| · **9.1 Information on basic physical and chemical properties** | |
| · **General Information** | |
| · **Appearance:** | |
| **Form:** | Pasty |
| **Colour:** | Various colours |
| · **Odour:** | Light |
| · **Change in condition** | |
| **Melting point/freezing point:** | undetermined |
| **Initial boiling point and boiling range:** | 137 °C |
| · **Flash point:** | > 75 °C (ISO 3679) |
| · **Flammability (solid)** | The product is not subject to classification because its speed of combustion is lower than the limit of the regulation. |
| · **Self-ignition temperature:** | > 200 °C |
| · **Self igniting:** | Product is not selfigniting at room temperature. |
| · **Explosive properties:** | Product is not explosive. However, formation of explosive air/vapour mixtures are possible |
| · **Explosion limits:** | |
| **Lower:** | 0.6 Vol % |
| **Upper:** | 7 Vol % |
| · **Density at 20 °C:** | 1.15 |
| · **Solubility in / Miscibility with** | |
| **Water:** | Not miscible or difficult to mix. |
| · **9.2 Other information** | No further relevant information available. |
| · **Volatile organic compounds (VOC) having at 293,15 K a vapour pressure of 0,01 kPa or more (directive 1999/13/EC) :** | < 9,5% |

## SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **10.3 Possibility of hazardous reactions**
Reacts with alcohols, amines, aqueous acids and alkalis.
Reacts with water forming carbon dioxide.Danger of receptacles bursting because of vapour overpressure.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.



(Contd. on page 7)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 6)

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## SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.

| · **LD/LC50 values that are relevant for classification:** | | |
|---|---|---|
| **1330-20-7 xylene, mixture of isomers** | | |
| Oral | LD50 | 8,700 mg/kg (rat) |
| Dermal | LD50 | 2,000 mg/kg (rbt) |
| Inhalative | LC50/4 h | 6,350 mg/l (rat) |
| **100-41-4 ethylbenzene** | | |
| Oral | LD50 | 3,500 mg/kg (rat) |
| Dermal | LD50 | 17,800 mg/kg (rbt) |

· **Primary irritant effect:**
· **Skin corrosion/irritation** May be slightly irritant.
· **Serious eye damage/irritation** May be slightly irritant.
· **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
· **Additional toxicological information:** Non-irritating to rabbit's eye (method : OECD guideline 405)
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water course or sewage system.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must be disposed of in an incinerator for hazardous waste according to official regulations.
· **Waste disposal key:** 08 04 09*

(Contd. on page 8)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 7)

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

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## SECTION 14: Transport information

| | |
|---|---|
| · **14.1 UN-Number** | |
| · **ADR, ADN, IMDG, IATA** | Void |
| · **14.2 UN proper shipping name** | |
| · **ADR, ADN, IMDG** | Void |
| · **IATA** | Not regulated |
| | Void |
| · **14.3 Transport hazard class(es)** | |
| · **ADR, ADN, IMDG, IATA** | |
| · **Class** | Void |
| · **14.4 Packing group** | |
| · **ADR, IMDG, IATA** | Void |
| · **14.5 Environmental hazards:** | Not applicable. |
| · **14.6 Special precautions for user** | Not applicable. |
| · **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** | Not applicable. |
| · **Transport/Additional information:** | Not classified as hazardous for transport as specified in paragraphs 2.2.41.1.5 of the ADR code, 2.4.2.2.2.1 of the IMDG code and 3.4.1.1.2.1 of the IATA code as the product is a solid and as its combustion speed is lower than 2.2 mm/s |
| · **UN "Model Regulation":** | Void |

## SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 56a

· **National regulations**
· **French VOC regulation (decree n° 2011-321) :** Class A+

| · **Biocides regulation (UE/2012/528)** |
|---|
| None of the ingredients is listed. |

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has been carried out.



(Contd. on page 9)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 8)

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
This data sheet is particularly in accordance with the european regulations 1907/2006/EC, 1272/2008/EC and their amendments ; it is written according to annex II of the european regulation 830/2015/EC.

· **Relevant phrases**
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
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.
H318 Causes serious eye damage.
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 the hearing organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

· **Department issuing SDS:** Laboratory
· **Contact:** cf. § 1
· **Review :**
An asterisk in the margin of a paragraph means amendments in comparison to the former version.
· **Abbreviations and acronyms:**
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
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1A: Skin sensitisation – Category 1A
Carc. 2: Carcinogenicity – Category 2
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3



(Contd. on page 10)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 9)

## Annex: Exposure scenario 1

· **Short title of the exposure scenario**
Industrial use for rigid foam, coatings and adhesives and sealants
Professional end use in rigid foam, coatings, adhesives and sealants and other composite material
Consumer end use in rigid foam, coatings and adhesives and sealants
· **Sector of Use**
SU3 Industrial uses: uses of substances as such or in preparations at industrial sites
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU21 Consumer uses: Private households / general public / consumers
· **Product category**
PC1 Adhesives, sealants
PC9a Coatings and paints, thinners, paint removers
PC32 Polymer preparations and compounds
· **Process category**
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC7 Industrial spraying
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
· **Environmental release category**
ERC5 Use at industrial site leading to inclusion into/onto article
ERC8c Widespread use leading to inclusion into/onto article (indoor)
ERC8f Widespread use leading to inclusion into/onto article (outdoor)
ERC2 Formulation into mixture
· **Conditions of use** According to directions for use.
· **Duration and frequency**
Up to 8 hours / day
For consumer end use in rigid foam, coatings and adhesives and sealants :
Covers use up to 1 day/year
Covers skin contact area up to 2 $cm^2$
· **Physical parameters**
· **Physical state** Liquid
· **Concentration of the substance in the mixture** Raw material.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure**
Local fresh water dilution factor: 10
Local marine water dilution factor : 100
· **Other operational conditions affecting worker exposure**
Avoid contact with the skin and eyes.
Indoor application.
Outdoor application.
Do not breathe gas/vapour/aerosol.
· **Other operational conditions affecting consumer exposure** Keep out of the reach of children.
· **Other operational conditions affecting consumer exposure during the use of the product**
Not applicable.
· **Risk management measures**
· **Worker protection**
Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Provide extraction ventilation at points where emissions occur. Provide extract ventilation to material transfer points and other openings. Handle in a fumecupboard or under extract ventilation.
If above technical/organisational control measures are not feasible, then adopt following PPE: wear a

(Contd. on page 11)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 10)

respirator conforming to EN140 with Type A filter or better.
Use suitable eye protection and gloves. Wear suitable coveralls to prevent exposure to the skin.

· **Organisational protective measures**
Ensure that activities are executed by specialists or authorised personnel only.

· **Technical protective measures**
Ensure that suitable extractors are available on processing machines
Work only in fume cupboard.
Ensure good ventilation/exhaustion at the workplace.

· **Personal protective measures**
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
Tightly sealed goggles.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Short term filter device:
Filter A2B2-P3
Butyl, nitrile or polychloroprene rubber gloves of superior quality.
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.
Protective work clothing.

· **Measures for consumer protection**
Ensure adequate labelling.
Keep locked up and out of the reach of children.
Protective gloves
Tightly sealed goggles.

· **Environmental protection measures**
· **Air** No special measures required.
· **Water** Do not allow to reach ground water, water bodies or sewage system.
· **Soil** Prevent contamination of soil.
· **Disposal measures** Disposal must be made according to official regulations.
· **Disposal procedures**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
· **Exposure estimation**
· **Worker (dermal)**
The highest dermal exposure to be expected is 5.0 mg / kg / day.
(estimations using EASE)
· **Worker (inhalation)** PROC4 : the highest inhalative exposure to be expected is 0.05 ppm.
· **Environment**
Prediction of highest expected environmental exposure (soil) is 0.27 mg/kg dry weight
The highest environmental exposure to be expected for surface waters is 0.0687 mg/L.
The highest environmental exposure to be expected for seawater is 0.000543 mg/L.
· **Consumer**
The highest inhalative exposure to be expected for consumers is 0.020 ppm.
The highest dermal exposure to be expected for consumers is 0.069 mg / kg / day.
(Consexpo model)
· **Guidance for downstream users**
For the risk assessment, the tools recommended by ECHA can be used.



(Contd. on page 12)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 11)

## Annex: Exposure scenario 2

· **Name** xylene, mixture of isomers
· **Short title of the exposure scenario**
Industrial use for rigid foam, coatings and adhesives and sealants
Professional end use in rigid foam, coatings, adhesives and sealants and other composite material
Consumer end use in rigid foam, coatings and adhesives and sealants
· **Sector of Use**
SU3 Industrial uses: uses of substances as such or in preparations at industrial sites
SU21 Consumer uses: Private households / general public / consumers
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU3 Industrial uses: uses of substances as such or in preparations at industrial sites
SU22 Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
SU21 Consumer uses: Private households / general public / consumers
· **Product category**
PC1 Adhesives, sealants
PC32 Polymer preparations and compounds
· **Process category**
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC7 Industrial spraying
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
· **Environmental release category**
ERC2 Formulation into mixture
ERC5 Use at industrial site leading to inclusion into/onto article
ERC8c Widespread use leading to inclusion into/onto article (indoor)
ERC8f Widespread use leading to inclusion into/onto article (outdoor)
· **Description of the activities / processes covered in the Exposure Scenario**
See section 1 of the annex to the Safety Data Sheet.
· **Conditions of use**
Customary application according to section 1.
According to directions for use.
· **Duration and frequency**
SU3 and SU22 :
Up to 8 h per day, 300 days per year
SU21, PC1 (adhesives, sealants) :
Up to 1 times per day, 365 days per year
Concentrations up to 25 %
Exposed skin surface (hands) up to 35.73 $cm^2$
Amounts used/applied per event : 75 g
Room volume : > 20 $m^3$
Exposition up to 1 hour(s) per event
· **Physical parameters**
· **Physical state** Fluid
· **Concentration of the substance in the mixture** Raw material.
· **Other operational conditions**
· **Other operational conditions affecting environmental exposure**
Local fresh water dilution factor: 10
Local marine water dilution factor : 100

(Contd. on page 13)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 12)

· **Other operational conditions affecting worker exposure**
Indoor application.
Outdoor application.
Do not breathe gas/vapour/aerosol.
Avoid contact with the skin, eyes and clothing.
Avoid contact with the skin.
· **Other operational conditions affecting consumer exposure** Keep out of the reach of children.
· **Other operational conditions affecting consumer exposure during the use of the product**
Application temperature : room temperature
· **Risk management measures**
· **Worker protection**
SU3 :
Avoid direct contact with skin. Identify potential areas for indirect contact with the skin. Wear gloves (EN 374) if there is a risk of contact of the substance with the skin. Remove impurities / quantities immediately after spilling. Wash skin immediately after handling. Complete basic training of personnel, so that exposure is minimized and eventually the skin problems are reported. Other measures of skin protection are required, such as waterproof clothing and a protective mask during activities with high spread, leading to the likely significant release of aerosols (e.g. spraying).
Mixing operations (closed systems) : provide adequate general ventilation (not less than 3 to 5 air changes per hour).
Preparation of material for application / blending operations (open systems) : provide adequate controlled ventilation (10 to 15 air changes per hour).
Spray (automatic / robotic) : carry out in ventilated booth with laminar air flow.
Spray : ensure an adequate controlled ventilation (10 to 15 air changes per hour). Wear a respiratory protection (standard EN 140 with Type A filter or better).
Roller coating, spraying and flow coating : provide additional ventilation where emissions occur.
Storage with occasional controlled exposure : store substance in a closed system.
Cleaning : ensure an adequate controlled ventilation (10 to 15 air changes per hour)
SU 22 :
Avoid direct contact with skin. Identify potential areas for indirect contact with the skin. Wear gloves (EN 374) if there is a risk of contact of the substance with the skin. Remove impurities / quantities immediately after spilling. Wash skin immediately after handling. Complete basic training of personnel, so that exposure is minimized and eventually the skin problems are reported. Other measures of skin protection are required, such as waterproof clothing and a protective mask during activities with high spread, leading to the likely significant release of aerosols (e.g. spraying).
Preparation of material for indoor application : provide adequate controlled ventilation (10 to 15 air changes per hour); avoid activities with more than 1 hour exposure.
Preparation of material for outdoor application : ensure that exploitation takes place outdoors ; avoid activities with more than 1 hour exposure.
Indoor roller coating, spraying and flow coating : ensure adequate controlled ventilation (10 to 15 air changes per hour) ; wear respiratory protection (standard EN 140 with Type A filter or better).
Outdoor roller coating, spray and flow coating : ensure that the operation takes place outdoors, wear respiratory protection (standard EN 140 with Type A filter or better).
Indoor spraying : carry out in ventilated booth with laminar air flow.
Outdoor spraying : ensure that the operation takes place outdoors ; avoid activities with more than 4 hours exposure ; wear a full face respirator according to standard EN136 with Type A filter or better.
Cleaning and maintenance of equipment : extinguish systems before opening and maintenance of equipment ; avoid activities with more than 4 hours exposure.
Storage with occasional controlled exposure : store substance in a closed system ; ensure an adequate controlled ventilation (10 to 15 air changes per hour).
Do not eat, drink, smoke while working.
· **Organisational protective measures**
SU3 and SU 22 :
Do not apply industrial sludge to natural soils.
Sewage sludge has to be incinerated, stored or treated.

(Contd. on page 14)

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

Printing date 27.02.2020 Revision: 27.02.2020

**Trade name: Zettex PU 50**

(Contd. of page 13)

Ensure that activities are executed by specialists or authorised personnel only.

· **Technical protective measures**
Ensure good ventilation/exhaustion at the workplace.
Ensure that suitable extractors are available on processing machines
Take note of emission threshold.

· **Personal protective measures**
Avoid contact with the eyes and skin.
Wear approved protective gloves (EN 374) ; if contamination of hands is likely,wash skin contamination immediately.
Do not inhale gases / fumes / aerosols.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Wear a respiratory protection (standard EN 140 with Type A filter or better).
Avoid contact with the skin.
Protective work clothing.

· **Measures for consumer protection**
Ensure adequate labelling.
Protective gloves
Tightly sealed goggles.
Keep out of reach of children.
Keep locked up and out of the reach of children.

· **Environmental protection measures**

· **Air** No special measures required.

· **Water**
Do not allow to reach sewage system.
On-site wastewater treatment (before release into the water) to achieve the required level of cleaning : 93.6 %
Do not allow to reach ground water, water bodies or sewage system.

· **Soil** Prevent contamination of soil.

· **Disposal measures**
Do not apply industrial sludge to natural soils.
Ensure that waste is collected and contained.

· **Disposal procedures**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Guidance for downstream users**
For the risk assessment, the tools recommended by ECHA can be used.