

# Material Safety Data Sheet

## According to 91/155 EEC

Printing date 21.12.2006

Reviewed on 21.12.2006

### 1 Identification of the substance/preparation and of the company/undertaking

· **Product details**

· **Trade name: Pi-Ku-Plast Monomer**

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· **Article number:** 540 0016 8, 540 0017 8, 540 0017 9, 540 0018 0, 540 0018 1

· **Application of the substance / the preparation** Liquid for Pi-Ku-Plast brush resin

· **Manufacturer/Supplier:**

Bredent

Weißenhorners Straße 2

D-89250 Senden

Tel.: +49 (0) 7309/872-0

Fax: +49 (0) 7309/872-24

· **Further information obtainable from:** R & D








· **Information in case of emergency:** Tel.: +49 (0) 6132-84436 (24 h)

### 2 Composition/information on ingredients

· **Chemical characterization**

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

· **Dangerous components:**

CAS: 80-62-6 EINECS: 201-297-1	methyl methacrylate	 Xi,  F; R 11-37/38-43	50-100%
CAS: 99-97-8 EINECS: 202-805-4	N,N-dimethyl-p-toluidine	 T; R 23/24/25-33-52/53	1-5%
CAS: 2082-81-7 EINECS: 218-218-1	tetramethylene dimethacrylate	 Xi; R 36/37/38	1-5%
CAS: 97-90-5 EINECS: 202-617-2	ethylene dimethacrylate	 Xi; R 37-43	1-5%
CAS: 1330-20-7 EINECS: 215-535-7	xylene	 Xn,  Xi; R 10-20/21-38	1-5%

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

### 3 Hazards identification

· **Hazard description:**



Xn Harmful

F Highly flammable

· **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.

R 11 Highly flammable.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 33 Danger of cumulative effects.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 43 May cause sensitisation by skin contact.

· **Classification system:**

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

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### 4 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.*
- **After inhalation:**  
*Supply fresh air and to be sure call for a doctor.  
 In case of unconsciousness place patient stably in side position for transportation.*
- **After skin contact:**  
*If skin irritation continues, consult a doctor.  
 Immediately wash with water and soap and rinse thoroughly.*
- **After eye contact:** *Rinse opened eye for several minutes under running water.*
- **After swallowing:** *Call for a doctor immediately.*

### 5 Fire-fighting measures

- **Suitable extinguishing agents:** *CO<sub>2</sub>, sand, extinguishing powder. Do not use water.*
- **For safety reasons unsuitable extinguishing agents:** *Water with full jet*
- **Protective equipment:** *Wear self-contained respiratory protective device.*

### 6 Accidental release measures

- **Person-related safety precautions:**  
*Ensure adequate ventilation  
 Wear protective equipment. Keep unprotected persons away.  
 Keep away from ignition sources.  
 Use respiratory protective device against the effects of fumes/dust/aerosol.*
- **Measures for environmental protection:** *Do not allow to enter sewers/ surface or ground water.*
- **Measures for cleaning/collecting:**  
*Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
 Dispose contaminated material as waste according to item 13.  
 Ensure adequate ventilation.  
 Do not flush with water or aqueous cleansing agents*

### 7 Handling and storage

- **Handling:**
- **Information for safe handling:**  
*Keep receptacles tightly sealed.  
 Ensure good ventilation/exhaustion at the workplace.  
 Prevent formation of aerosols.*
- **Information about fire - and explosion protection:**  
*Fumes can combine with air to form an explosive mixture.  
 Use explosion-proof apparatus / fittings and spark-proof tools.  
 Keep ignition sources away - Do not smoke.  
 Protect against electrostatic charges.*
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
*Store only in the original receptacle.  
 Store in a cool location.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:**  
*Store in the dark.  
 Keep container tightly sealed.*

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*Store in cool, dry conditions in well sealed receptacles.*

### 8 Exposure controls/personal protection

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

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

#### 80-62-6 methyl methacrylate

OES Short-term value: 416 mg/m<sup>3</sup>, 100 ppm  
 Long-term value: 208 mg/m<sup>3</sup>, 50 ppm

#### 1330-20-7 xylene

OES Short-term value: 662 mg/m<sup>3</sup>, 150 ppm  
 Long-term value: 441 mg/m<sup>3</sup>, 100 ppm  
 Sk

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

· **Personal protective equipment:**

· **General protective and hygienic measures:**

*The usual precautionary measures are to be adhered to when handling chemicals.*

*Do not eat, drink, smoke or sniff while working.*

*Keep away from foodstuffs, beverages and feed.*

*Immediately remove all soiled and contaminated clothing*

*Wash hands before breaks and at the end of work.*

*Avoid contact with the eyes and skin.*

· **Respiratory protection:**

*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.*

· **Protection of hands:**



*Protective gloves*

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*

*Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*

*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

· **Material of gloves**

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

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

· **Eye protection:**



*Tightly sealed goggles*

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### 9 Physical and chemical properties

#### · General Information

**Form:** Fluid  
**Colour:** According to product specification  
**Odour:** Characteristic

#### · Change in condition

**Melting point/Melting range:** Undetermined.  
**Boiling point/Boiling range:** 101°C

· **Flash point:** 10°C

· **Ignition temperature:** 430°C

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

#### · Explosion limits:

**Lower:** 2.1 Vol %  
**Upper:** 12.5 Vol %

· **Vapour pressure at 20°C:** 47 hPa

· **Density at 20°C:** 0.95 g/cm<sup>3</sup>

#### · Solubility in / Miscibility with water:

Not miscible or difficult to mix.

#### · Viscosity:

**Dynamic at 20°C:** 1 mPas

### 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Dangerous reactions**  
 Exothermic polymerization.  
 Contact with water releases flammable gases.
- **Dangerous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

#### · Acute toxicity:

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

##### 80-62-6 methyl methacrylate

Oral	LD50	7872 mg/kg (rat)
Dermal	LD50	>5000 mg/kg (rabbit)
Inhalative	LC50/4 h	29.8 mg/l (rat)

#### · Primary irritant effect:

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitization:** Sensitization possible through skin contact.

#### · 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

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Irritant

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## 12 Ecological information

· **General notes:**

*Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water*

*Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.*

## 13 Disposal considerations

· **Product:**

· **Recommendation**

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

· **Uncleaned packaging:**

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

## 14 Transport information

· **Land transport ADR/RID (cross-border)**



· **ADR/RID class:** 3 Flammable liquids.

· **Danger code (Kemler):** 339

· **UN-Number:** 1993

· **Packaging group:** II

· **Hazard label:** 3

· **Description of goods:** 1992 FLAMMABLE LIQUID, TOXIC, N.O.S. (METHYL METHACRYLATE MONOMER, STABILIZED, N,N-dimethyl-p-toluidine)

· **Maritime transport IMDG:**



· **IMDG Class:** 3

· **UN Number:** 1993

· **Label:** 3

· **Packaging group:** II

· **EMS Number:** F-E,S-E

· **Marine pollutant:** No

· **Proper shipping name:** FLAMMABLE LIQUID, N.O.S. (METHYL METHACRYLATE MONOMER, STABILIZED)

· **Air transport ICAO-TI and IATA-DGR:**



· **ICAO/IATA Class:** 3

· **UN/ID Number:** 1993

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- **Label** 3
- **Packaging group:** II
- **Proper shipping name:** FLAMMABLE LIQUID, N.O.S. (METHYL METHACRYLATE MONOMER, STABILIZED)

### 15 Regulatory information

- **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*  
*F Highly flammable*
- **Hazard-determining components of labelling:**  
*methyl methacrylate*  
*ethylene dimethacrylate*  
*N,N-dimethyl-p-toluidine*
- **Risk phrases:**  
*11 Highly flammable.*  
*20/21/22 Harmful by inhalation, in contact with skin and if swallowed.*  
*33 Danger of cumulative effects.*  
*36/37/38 Irritating to eyes, respiratory system and skin.*  
*43 May cause sensitisation by skin contact.*
- **Safety phrases:**  
*2 Keep out of the reach of children.*  
*9 Keep container in a well-ventilated place.*  
*36/37 Wear suitable protective clothing and gloves.*  
*60 This material and its container must be disposed of as hazardous waste.*

### 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 R-phrases**  
*10 Flammable.*  
*11 Highly flammable.*  
*20/21 Harmful by inhalation and in contact with skin.*  
*23/24/25 Toxic by inhalation, in contact with skin and if swallowed.*  
*33 Danger of cumulative effects.*  
*36/37/38 Irritating to eyes, respiratory system and skin.*  
*37 Irritating to respiratory system.*  
*37/38 Irritating to respiratory system and skin.*  
*38 Irritating to skin.*  
*43 May cause sensitisation by skin contact.*  
*52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.*
- **Department issuing MSDS:** R & D
- **Contact:** R & D

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