

# Safety Data Sheet

according to Regulation (EU) No. 1907/2006

## 950 PMMA Series Resists in Chlorobenzene

Print date : 17.6.2009

Product code : MM240XXX

Page 1 of 7

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

#### Identification of the substance or preparation

950 PMMA Series Resists in Chlorobenzene

#### Use of the substance/preparation

Organic Polymer Solution

#### Company/undertaking identification

Company name : MicroChem Corp.  
Street : 90 Oak Street  
Place : USA-MA 02464-1418 Newton  
Post-office box : PO Box 426  
USA-MA 02464-0002 Newton  
Telephone : +1 617 965 5511  
e-mail : productsafety@microchem.com  
Internet : www.microchem.com  
Emergency telephone : Chemtrec (International): +1 703 527 3887  
Telefax : +1 617 965 5818

### 2. Hazards identification

#### **Classification**

Indications of danger : Harmful, Dangerous for the environment

R-phrases :

Flammable.

Harmful by inhalation.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 3. Composition/information on ingredients

#### **Chemical characterization ( Mixture )**

#### **Hazardous components**

EC-No.	CAS-No.	Chemical name	Quantity	Classification
203-628-5	108-90-7	chlorobenzene	85 - 99 %	Xn, N R10-20-51-53

Full text of each relevant R phrase can be found in heading 16.

### 4. First aid measures

#### **After inhalation**

Provide fresh air. In case of breathing difficulties administer oxygen. If victim is at risk of losing consciousness, position and transport on their side. When inhaling vapours, first symptoms of poisoning may develop hours later, so always consult a doctor.

#### **After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing. Consult physician.

#### **After contact with eyes**

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Consult an ophthalmologist.

#### **After ingestion**

Do not induce vomiting. Rinse mouth thoroughly with water. Let water be swallowed in little sips (dilution effect). No administration in cases of unconsciousness or cramps. Immediately get medical attention.

# Safety Data Sheet

according to Regulation (EU) No. 1907/2006

## 950 PMMA Series Resists in Chlorobenzene

Print date : 17.6.2009

Product code : MM240XXX

Page 2 of 7

**Advice to doctor**

Treat symptomatically.

### 5. Fire-fighting measures

**Suitable extinguishing media**Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. Foam.**Extinguishing media which must not be used for safety reasons**

High power water jet.

**Special exposure hazards arising from substance or preparation itself, combustion products, resulting gases**

Concentrated vapours are heavier than air. Vapours may form explosive mixtures with air.

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

Can be released in case of fire: Hydrogen chloride (HCl). phosgene.

**Special protective equipment for fire-fighters**

In case of fire: Wear self-contained breathing apparatus. Wear chemical resistant suit.

**Additional information**

Use water spray/stream to protect personnel and to cool endangered containers. Contaminated fire-fighting water must be collected separately.

### 6. Accidental release measures

**Personal precautions**

Remove all sources of ignition. The following must be prevented: inhalation. skin contact. Eye contact.

Provide adequate ventilation.

**Environmental precautions**

Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

**Methods for cleaning up/taking up**

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Collect in closed containers for disposal. Clean contaminated objects and areas thoroughly observing environmental regulations.

### 7. Handling and storage

**Handling****Advice on safe handling**

Use only in well-ventilated areas. Keep away from sources of ignition - No smoking.

**Advice on protection against fire and explosion**

Take precautionary measures against static discharges.

**Storage****Requirements for storage rooms and vessels**

Keep container tightly closed and in a well-ventilated place.

Unsuitable materials for Container: Aluminium.

**Further information on storage conditions**

Protect against: heat. UV-radiation/sunlight.

Storageclass (VCI) :

3 A

### 8. Exposure controls/personal protection

**Exposure limit values**

# Safety Data Sheet

according to Regulation (EU) No. 1907/2006

## 950 PMMA Series Resists in Chlorobenzene

Print date : 17.6.2009

Product code : MM240XXX

Page 3 of 7

### Exposure limits (EH40)

CAS-No.	Chemical name	ml/m <sup>3</sup>	mg/m <sup>3</sup>	F/ml	Category	Origin
108-90-7	Chlorobenzene	1	4.7		TWA (8 h)	WEL
		3	14		STEL (15 min)	WEL

### Exposure controls

#### Protective and hygiene measures

When using do not eat, drink or smoke. Protect skin by using skin protective cream. After work, wash hands and face. Immediately remove any wetted clothing, shoes or stockings.

#### Respiratory protection

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn. Respiratory protection required in case of: aerosol or mist generation. Filter respirator (full mask or mouth-piece) with filter: A

#### Hand protection

Tested protective gloves are to be worn: Single-use gloves.  
German Industry Norms (DIN) / European Norms (EN): EN 374

Duration of wearing with permanent contact:

Suitable material: FKM (fluororubber).

Thickness of glove material: 0.7 mm

penetration time (maximum wearing period): > 480 min

Recommended protective gloves brand: KCL 890 Vitoject, Manufacturer: KCL GmbH, D-36124 Eichenzell, Source of supply: www.kcl.de

Duration of wearing with occasional contact (splashes):

Suitable material: NBR (Nitrile rubber).

Thickness of glove material: 0.4 mm

penetration time (maximum wearing period): > 10 min

Recommended protective gloves brand: KCL 730 Camatril-Velours, Manufacturer: KCL GmbH, D-36124 Eichenzell, Source of supply: www.kcl.de

In the cases of special applications, it is recommended to check the chemical resistance with the manufacturer of the gloves.

#### Eye protection

Suitable eye protection: Tightly sealed safety glasses.

#### Skin protection

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

## 9. Physical and chemical properties

### General information

Physical state : liquid  
Colour : colourless, clear  
Odour : like: benzene

### Important health, safety and environmental information

Test method

#### Changes in the physical state

Boiling point : 132 °C  
Flash point : 28 °C TCC  
Lower explosion limits : 1.3 vol. %

# Safety Data Sheet

according to Regulation (EU) No. 1907/2006

## 950 PMMA Series Resists in Chlorobenzene

Print date : 17.6.2009

Product code : MM240XXX

Page 4 of 7

Upper explosion limits : 7.1 vol. %  
Vapour pressure : 15 hPa  
(at 20 °C)  
Density (at 20 °C) : 1.106-1.120 g/cm<sup>3</sup>  
Water solubility : slightly soluble

### Other information

Ignition temperature : 590 °C

## 10. Stability and reactivity

### Conditions to avoid

UV-radiation/sunlight. heat.

### Materials to avoid

Oxidizing agents. Acid, concentrated. Alkali metals. Alkaline earth metals. dimethylsulphoxide (DMSO).

### Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Hydrogen chloride (HCl). Phenol.

## 11. Toxicological information

### Acute toxicity

chlorobenzene:

Acute toxicity, oral LD50: 1100 mg/kg species: Rat. (IUCLID)

Acute toxicity, inhalant LC50: 13.9 mg/l/ 6h species: Rat. (IUCLID)

## 12. Ecological information

### Ecotoxicity

chlorobenzene:

Acute fish toxicity LC50: 10.4 mg/l /96 h species: Salmo trutta fario (L) (OECD 203)

Acute Daphnia toxicity EC50: 20 mg/l /48 h species: Daphnia magna (OECD 202)

### Bioaccumulative potential

chlorobenzene:

Distribution coefficient (n-octanol / water) (log P O/W): 2.84 Method: literature value

Due to the n-octanol-water partition coefficient, a bio-accumulation in organisms is not to be expected.

### Further information

product has not been tested. Do not allow uncontrolled leakage of product into the environment.

## 13. Disposal considerations

### Advice on disposal

Appropriate disposal / Product: Remove according to the regulations.

Contaminated packaging: Cleaned containers may be recycled.

## 14. Transport information

### Land transport (ADR/RID)

UN number : 1866  
ADR/RID class : 3  
Classification code : F1  
Warning plate  
Hazard-no. : 30

## Safety Data Sheet

according to Regulation (EU) No. 1907/2006

### 950 PMMA Series Resists in Chlorobenzene

Print date : 17.6.2009

Product code : MM240XXX

Page 5 of 7

Hazard label : 3  
 ADR/RID packing group : III  
 Limited quantity : LQ7

#### Description of the goods

Resin solution

#### Other applicable information (land transport)

Special provisions: 640E  
 Excepted Quantity: E1  
 Transport category: 3  
 Tunnel restriction code: D/E

#### Inland waterways transport

#### Other applicable information (inland waterways transport)

Not classified for this carrier.

#### Marine transport

UN number : 1866  
 IMDG code : 3  
 Marine pollutant : NO  
 Hazard label : 3  
 IMDG packing group : III  
 EmS : F-E, S-E  
 Limited quantity : 5 L

#### Description of the goods

Resin solution

#### Other applicable information (marine transport)

Special provisions: 223, 944, 955

#### Air transport

UN/ID number : 1866  
 ICAO/IATA-DGR : 3  
 Hazard label : 3  
 ICAO packing group : III  
 Limited quantity Passenger : 10 L  
 IATA-packing instructions - Passenger : 309  
 IATA-max. quantity - Passenger : 60 L  
 IATA-packing instructions - Cargo : 310  
 IATA-max. quantity - Cargo : 220 L

#### Description of the goods

Resin solution

#### Other applicable information (air transport)

Excepted Quantity: E1  
 Passenger-LQ: Y309  
 Cargo-Maximum: 220 L

### 15. Regulatory information

#### Labelling

Danger symbols : Xn - Harmful; N - Dangerous for the environment

# Safety Data Sheet

according to Regulation (EU) No. 1907/2006

## 950 PMMA Series Resists in Chlorobenzene

Print date : 17.6.2009

Product code : MM240XXX

Page 6 of 7



Xn - Harmful



N - Dangerous for the environment

### Hazardous component(s) to be indicated on label

chlorobenzene

### R phrases

- |       |   |
|-------|---|
| 10    | Flammable.  |
| 20    | Harmful by inhalation.  |
| 51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

### S phrases

- |       |   |
|-------|---|
| 45    | In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). |
| 61    | Avoid release to the environment. Refer to special instructions / Safety data sheets.                       |
| 24/25 | Avoid contact with skin and eyes.   |

### Additional advice on labelling

This solvent is to be sent to recycling or to disposal after use. Incorrect disposal endangers the environment. After use, all mixtures with other foreign substances or solvents of other types is forbidden.

### EU regulatory information

1999/13/EC (VOC) : This chemical is a VOC according to 99/13/EC. Volatile organic compounds (VOC) in percentage by weight: 85-99

### Additional information

This solvent is to be sent to recycling or to disposal after use. Incorrect disposal endangers the environment. After use, all mixtures with other foreign substances or solvents of other types is forbidden.

### National regulatory information

Employment restrictions : Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing.

Water contaminating class (D) : 2 - water contaminating

## 16. Other information

### Full text of R-phrases referred to under sections 2 and 3

- |       |   |
|-------|---|
| 10    | Flammable.  |
| 20    | Harmful by inhalation.  |
| 51    | Toxic to aquatic organisms.   |
| 51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| 53    | May cause long-term adverse effects in the aquatic environment.                             |

### Further Information

The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

## Safety Data Sheet

according to Regulation (EU) No. 1907/2006

### 950 PMMA Series Resists in Chlorobenzene

Print date : 17.6.2009

Product code : MM240XXX

Page 7 of 7

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*