

EMS CATALOG NO: 14800  
EMS PRODUCT: Entellan  
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#### MATERIAL SAFETY DATA SHEET

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#### FOR PRODUCT AND SALES INFORMATION

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CONTACT ELECTRON MICROSCOPY SCIENCES OFFICE ABOVE.

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#### PRODUCT IDENTIFICATION

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PRODUCT NAME: Entellan

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#### COMPOSITION/INFORMATION ON INGREDIENTS

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Acrylate resin: Solution in Toluene.

#### HAZARDOUS INGREDIENTS:

Name according to EC Directives: Toluene

Hazard symbols: F Xn R-phrases: 11-20

EC-Index-No.: 601-021-00-3 Highly flammable. Harmful by inhalation

CAS No.: 108-88-3 Content: > 50%

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#### FIRST AID MEASURES

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After inhalation: Fresh air. Keep airways free.

After skin contact: Rinse out with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Summon eye specialist.

After swallowing: Activated charcoal (20-40g in 10% slurry). Sodium sulfate (1 tablespoon/1/4 l water). Summon doctor. (Caution if victim vomits. Risk of aspiration!) No castor oil. No mil. No alcohol.

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#### FIREFIGHTING MEASURES

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SUITABLE EXTINGUISHING MEDIA: CO<sub>2</sub>, foam, powder.

SPECIAL RISKS: Combustible. Vapors heavier than air. Formation of explosible mixtures possible with air. Keep away from sources of ignition. Beware of backfiring.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTING: So not staty in dangerous zone without self-contained breathing apparatus.

OTHER INFORMATION: Take measures to prevent electrostatic charging. Prevent fire-fighting water from entering surface water or groundwater.

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#### ACCIDENTAL RELEASE MEASURES

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##### PERSON-RELATED PRECAUTIONARY MEASURES:

Do not inhale vapors/aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

##### PROCEDURES FOR CLEANING / ABSORPTION:

Take up with liquid-absorbent material (e.g. Chemizorb). Forward for disposal.

Clean up affected area.

##### ENVIRONMENTAL-PROTECTION MEASURES:

Do not allow to enter sewerage system; risk of explosion!

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#### HANDLING AND STORAGE

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HANDLING: Keep away from sources of ignition. Take measures to prevent electrostatic charging.

STORAGE: Tightly closed. In a well-ventilated place. Keep away from sources of ignition and heat. AT ROOM

TEMPERATURE: (Recommendation +15 to +25°C)

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#### EXPOSURE CONTROLS / PERSONAL PROTECTION

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##### SPECIFIC CONTROL PARAMETER

MAK Germany (max workplace conc.) Xylenes:

100 ml/m<sup>3</sup> or 440 mg/m<sup>3</sup>, Class. pregnancy: D

BAT Germany (biol. tolerance value) Xylenes:  
15 mg/l (blood), parameter: Xylene; 2g/l (urine),  
parameter: Methylhippuric (toluric) acid

**PERSONAL PROTECTIVE EQUIPMENT:**

RESPIRATORY PROTECTION: Required when vapors/aerosols are generated

EYE PROTECTION: Required

HAND PROTECTION: Required

Protective clothing should be selected specifically for the working place, depending on concentration and quality of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

INDUSTRIAL HYGIENE: Immediately change contaminated clothing. Apply skin-protective barrier cream. Wash hands and face after working with substance.

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**PHYSICAL AND CHEMICAL PROPERTIES**

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FORM: Liquid  
COLOR: Colorless  
ODOR: Of xylene  
pH VALUE: Not available

VISCOSITY DYNAMIC: (20°C) 250 mPa\*s  
MELTING TEMPERATURE: Not available  
BOILING TEMPERATURE: 137 - 143°C  
IGNITION TEMPERATURE: >250 °C  
FLASH POINT: -23 °C  
EXPLOSION LIMITS: Lower 1.1 Vol% (xylene)  
Upper 8.0 Vol%

VAPOR PRESSURE: (20°C) <8 mbar  
DENSITY: (20°C) 0.94 g/cm<sup>3</sup>

SOLUBILITY IN  
WATER: (20°C) Insoluble  
TOLUENE: (20°C) Soluble  
XYLENE: (20°C) Soluble

Log P (oct): 2.9 (xylene)

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**STABILITY AND REACTIVITY**

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CONDITIONS TO BE AVOIDED: Heating.

SUBSTANCES TO BE AVOIDED:

Applicable to partial component(s); strong oxidizing agents, conc. sulfuric acid, nitric acid, UF<sub>6</sub>.sulfur.

HAZARDOUS DECOMPOSITION PRODUCTS: Not known to date.

FURTHER INFORMATION: Inflammable; incompatible with light metals, various plastics, rubber; explosible with air in a vaporous/gaseous state.

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#### TOXICOLOGICAL INFORMATION

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ACUTE TOXICITY: Quantitative data on the toxicity of this product are not available.

SUBACUTE TO CHRONIC TOXICITY:

Applicable to partial component(s): The possibility of an embryotoxic effect has not yet been fully assessed.

FURTHER TOXICOLOGICAL INFORMATION:

Property that must be anticipated on the basis from the toxicological main component of the preparation:

After inhalation of vapor: Inhalation may lead to the formation of oedemas in the respiratory tract.

After skin contact: Irritations. Danger of skin absorption. Degreasing effect on the skin. possible followed by secondary inflammation.

After long-term exposure to the chemical: dermatitis. After eye contact: Irritations.

After absorption of toxic quantities: Systemic effect: headache; drowsiness, dizziness, euphoria, excitation, spasms, in certain circumstances narcosis. Effect potentiated by: ethanol

FURTHER DATA:

Further hazardous properties cannot be excluded.

The product should be handled with the care usual when dealing with chemicals.

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#### ECOLOGICAL INFORMATION

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Property that must be anticipated on the basis from the toxicological main component of the preparation:

Biologic degradation: Biodegradable.

Behavior in environmental compartments:

Distribution: log P(oct): 2.9 (xylene)

Ecotoxic effects:

Biological effects: Toxic for aquatic organisms.

Further ecologic data: ThOD: 3.125 g/g (xylene)

DO NOT ALLOW TO ENTER DRINKING WATER SUPPLIES, WASTE WATER OR SOIL!

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## DISPOSAL CONSIDERATIONS

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### PRODUCT:

There are no uniform EC regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations, and in the Federal Republic of Germany also by the individual Federal States. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

### PACKAGING:

Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

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## TRANSPORT INFORMATION

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### Land transport ADR/RID and GGVS/GGVE (Germany)

GGVS/GGVE class: 3      Number and letter: 31C  
ADR/RID class: 3      Number and letter: 31C  
Name of material: 1866 HARZLOESUNG

### River transport ADN/ADNR - Not examined

### Sea transport IMDG

IMDG glass: 3.3      UN-No.: 1866      Packaging group: III  
Ems: 3-05      MFAG: 310  
Correct technical name:

### Air transport ICAO-TI and IATA-DGR

ICAO/IATA class: 3      UN/ID-No.: 1866      Packaging group: III  
Correct technical name:

The transport regulations are cited according to international regulations and in the form applicable in Germany (GGVS/GGVE). Possible national deviations in other countries are not considered.

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## REGULATORY INFORMATION

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### Labelling according to EC Directives

Symbol: Xn      Harmful  
R-Phrases: 10-20/20-38      Flammable. Harmful by inhalation and in contact with skin.  
Irritating to skin.

