

## Safety data sheet

### According to 91/155 EEC

Printing date 18.11.2010

Version number 27

Revision: 18.11.2010













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

- **Product identifier**
- **Trade name:** Hardener H1
- **Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the preparation** Quenchant
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Forbo Siegling Pty. Ltd  
Factory 1, 124-126 Rodeo Drive  
Dandenong South  
Victoria 3175. Australia  
Ph.: 1300137933  
Fax: 1300137944
- **Information department:**  
Chemical Laboratory  
Email: Claudius.Hayduk@forbo.com
- **Emergency telephone number:**  
(001) 352 323 3500 (Transport hazardous materials)  
++49 (0) 511-6704-214

### 2 Composition/information on ingredients

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

- **Dangerous components:**

CAS: 141-78-6 EINECS: 205-500-4	ethyl acetate  Xi R36;  F R11 R66-67	25-50%
CAS: 53317-61-6	Aromatisches Polyisocyanat  Xi R36;  Xi R43	25-50%
CAS: 108-65-6 EINECS: 203-603-9	2-methoxy-1-methylethyl acetate R10	2.5-10%
CAS: 1330-20-7 EINECS: 215-535-7	Xylol (Isomerengemisch)  Xn R20/21;  Xi R38 R10	2.5-10%
CAS: 100-41-4 EINECS: 202-849-4	ethylbenzene  Xn R20;  F R11	< 2.5%
CAS: 26471-62-5 EINECS: 247-722-4	m-tolyldene diisocyanate  T+ R26;  Xn R40;  Xn R42/43;  Xi R36/37/38 R52/53	< 0.5%

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

### 3 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R20: Harmful by inhalation.



Xn; Sensitising

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



Xi; Irritant

R36: Irritating to eyes.



F; Highly flammable

R11: Highly flammable.

R66: Repeated exposure may cause skin dryness or cracking.

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- **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.

At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

- **Classification system:**

The classification was made according to the latest editions of the EU-lists, and expanded upon from 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  
F Highly flammable

- **Hazard-determining components of labelling:**

Aromatisches Polyisocyanat  
m-tolylidene diisocyanate

- **Risk phrases:**

- 11 Highly flammable.
- 20 Harmful by inhalation.
- 36 Irritating to eyes.
- 42/43 May cause sensitisation by inhalation and skin contact.
- 66 Repeated exposure may cause skin dryness or cracking.

- **Safety phrases:**

- 9 Keep container in a well-ventilated place.
- 23 Do not breathe fumes.
- 24/25 Avoid contact with skin and eyes.
- 37 Wear suitable gloves.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 60 This material and its container must be disposed of as hazardous waste.

- **Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer

- **Information pertaining to particular dangers for man and environment**

- **Safety phrases:**

- 9 Keep container in a well-ventilated place.
- 23 Do not breathe fumes.
- 24/25 Avoid contact with skin and eyes.
- 37 Wear suitable gloves.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 60 This material and its container must be disposed of as hazardous waste.

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 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.

- **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.

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- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing** If symptoms persist consult doctor.
- **Information for doctor** MSDB

### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**  
Alcohol resistant foam

CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

- **For safety reasons unsuitable extinguishing agents**  
Water.  
Water with full jet.
- **Advice for firefighters**
- **Protective equipment:**  
Wear self-contained respiratory protective device.  
Mount respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**



Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:**  
Prevent seepage into sewage system, workpits and cellars.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
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
- **Reference to other sections**  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling**
- **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.

- Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.

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- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.

## 8 Exposure controls/personal protection

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

- **Components with limit values that require monitoring at the workplace:**

141-78-6 ethyl acetate	
NES (Australia)	Short-term value: 1440 mg/m <sup>3</sup> , 400 ppm Long-term value: 720 mg/m <sup>3</sup> , 200 ppm
108-65-6 2-methoxy-1-methylethyl acetate	
NES (Australia)	Short-term value: 548 mg/m <sup>3</sup> , 100 ppm Long-term value: 274 mg/m <sup>3</sup> , 50 ppm Sk
1330-20-7 Xylol (Isomerengemisch)	
NES (Australia)	Short-term value: 655 mg/m <sup>3</sup> , 150 ppm Long-term value: 350 mg/m <sup>3</sup> , 80 ppm
100-41-4 ethylbenzene	
NES (Australia)	Short-term value: 543 mg/m <sup>3</sup> , 125 ppm Long-term value: 434 mg/m <sup>3</sup> , 100 ppm
26471-62-5 m-tolyldiene diisocyanate	
NES (Australia)	Short-term value: 0.07 mg/m <sup>3</sup> Long-term value: 0.02 mg/m <sup>3</sup> Sen

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

- **Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.

- **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.

- **Protection of hands:**  
Solvent resistant gloves  
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
- **Material of gloves**  
Butyl rubber, BR  
Natural rubber, NR  
Fluorocarbon rubber (Viton)  
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.

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- **Eye protection:** Safety glasses
- **Body protection:** Protective work clothing.

### 9 Physical and chemical properties

#### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form:	Fluid
Colour:	According to product specification
Odour:	Odourless
Odour threshold:	Not determined.

· pH-value: Not determined.

#### · Change in condition

Melting point/Melting range:	Melting point > 120°C
Boiling point/Boiling range:	76°C

· Flash point: -1°C

· Ignition temperature: 315°C

· Decomposition temperature: Not determined.

· Self igniting: Not determined.

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

#### · Explosion limits:

Lower:	2.1 Vol %
Upper:	11.5 Vol %

· Vapour pressure at 20°C: 100 hPa

Density at 20°C:	1.02475 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

#### · Solubility in / Miscibility with

Water: Not miscible or difficult to mix

· Segregation coefficient (n-octanol/water): Not determined.

#### · Viscosity:

dynamic:	Not determined.
kinematic:	Not determined.

#### · Solvent content:

Organic solvents: 62.5 %

· **Other information** No further relevant information available.

### 10 Stability and reactivity

#### · Reactivity

#### · Chemical stability

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known

· **Conditions to avoid** No further relevant information available.

· **Incompatible materials:** No further relevant information available.

· **Hazardous decomposition products:** No dangerous decomposition products known

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### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:**  
Sensitization possible through inhalation.  
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  
Irritant

### 12 Ecological information

- **Toxicity**
- **Acquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **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.

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 of together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances
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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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### 14 Transport information

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



- **ADR/RID class:** 3 Flammable liquids.
- **Danger code (Kemler):** 33
- **UN-Number:** 1993
- **Packaging group:** II
- **Label** 3
- **UN proper shipping name:** 1993 FLAMMABLE LIQUID, N.O.S., special provision 640D (ETHYL ACETATE)
- **Tunnel restriction code** D/E

#### · Maritime transport IMDG:



- **IMDG Class:** 3
- **UN Number:** 1993
- **Label** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-E
- **Marine pollutant:** No
- **Propper shipping name:** FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE)

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



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1993
- **Label** 3
- **Packaging group:** II
- **Propper shipping name:** FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE)

- **Special precautions for user** Warning: Flammable liquids.
- **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

##### · Australian Inventory of Chemical Substances

All ingredients are listed.

##### · Standard for the Uniform Scheduling of Drugs and Poisons

1330-20-7 | Xylol (Isomeregemisch)

S6

#### · Markings 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

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**Hazard-determining components of labelling:**

 Aromatisches Polyisocyanat  
 m-tolylidene diisocyanate

**Risk phrases:**

- 11 Highly flammable.
- 20 Harmful by inhalation.
- 36 Irritating to eyes.
- 42/43 May cause sensitisation by inhalation and skin contact.
- 66 Repeated exposure may cause skin dryness or cracking.

**Safety phrases:**

- 9 Keep container in a well-ventilated place.
- 23 Do not breathe fumes.
- 24/25 Avoid contact with skin and eyes.
- 37 Wear suitable gloves.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 60 This material and its container must be disposed of as hazardous waste.

**Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer

**National regulations**
**Technical instructions (air):**

Class	Share in %
I	0.3
NK	62.5

**Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

**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**

- R10 Flammable.
- R11 Highly flammable.
- R20 Harmful by inhalation.
- R20/21 Harmful by inhalation and in contact with skin.
- R26 Very toxic by inhalation.
- R36 Irritating to eyes.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R38 Irritating to skin.
- R40 Limited evidence of a carcinogenic effect.
- R42/43 May cause sensitisation by inhalation and skin contact.
- R43 May cause sensitisation by skin contact.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R66 Repeated exposure may cause skin dryness or cracking.
- R67 Vapours may cause drowsiness and dizziness.

**Department issuing MSDS:** Chemical Laboratory

**Contact:**

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