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

1.1. Product identifier

germanBond Härter AR

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture
Hardener, Adhesives, sealants, Reserved for industrial and professional use.

Uses advised against
Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: germanBelt GmbH
Street: Carl-Vollrath-Str. 8
Place: D-07422 Bad Blankenburg
Telephone: +49 (0)36741 / 5680-0
Telefax: +49 (0)36741 / 5680-70
e-mail: sales@germanbelt.de

1.4. Emergency telephone number:
Giftnotruf England: +44 (171) 635 91 91, Giftnotruf England: +44 (171) 635 91
Giftnotruf Norwegen: +47 (22) 591 300,

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard Statements:
Highly flammable liquid and vapour.
Causes skin irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
Suspected of causing cancer.
May cause respiratory irritation.
May cause drowsiness or dizziness.
May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling
ethyl acetate, Diphenylmethandiisocyanat

Signal word: Danger

Pictograms:

Hazard statements
H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements
- P340 Remove person to fresh air and keep comfortable for breathing.
- P501 Dispose of contents/container to an appropriate recycling or disposal facility.
- P370+P378 In case of fire: Use sand, extinguishing powder or alcohol-resistant foam to extinguish.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P370+P378 In case of fire: Use sand, extinguishing powder or alcohol-resistant foam to extinguish.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P501 Dispose of contents/container to an appropriate recycling or disposal facility.
- P200 Do not breathe dust/fume/gas/mist/vapours/spray.
- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

EUH066 Repeated exposure may cause skin dryness or cracking.
EUH204 Contains isocyanates. May produce an allergic reaction. Restricted to professional users.

2.3. Other hazards
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>EC No</th>
<th>Index No</th>
<th>REACH No</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6</td>
<td>ethyl acetate</td>
<td>205-500-4</td>
<td>807-022-00-5</td>
<td>01-2119475103-46</td>
<td>&gt;= 70 - &lt; 90 %</td>
</tr>
<tr>
<td>9016-87-9</td>
<td>Isocyanic acid, polymethylenepolyphenylene ester</td>
<td>9016-87-9</td>
<td>01-2119475986-60</td>
<td>01-2119475103-46</td>
<td>&gt;= 20 - &lt; 30 %</td>
</tr>
</tbody>
</table>

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
The danger areas must be delimited and identified using relevant warning and safety signs.

After inhalation
Immediately call a doctor. If unconscious place in recovery position and seek medical advice.

After contact with skin
Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation), IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

After contact with eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician in any case!
4.2. Most important symptoms and effects, both acute and delayed
Keine bekannt.

4.3. Indication of any immediate medical attention and special treatment needed
Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
- alcohol resistant foam
- Carbon dioxide (CO2)
- Extinguishing powder

Unsuitable extinguishing media
- Full water jet

5.2. Special hazards arising from the substance or mixture
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

5.3. Advice for firefighters
- In case of fire: Wear self-contained breathing apparatus.

Additional information
- Retain contaminated washing water and dispose it.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
- Use personal protection equipment. Provide adequate ventilation. Remove all sources of ignition. Remove persons to safety. The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

6.2. Environmental precautions
- Do not empty into drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

6.3. Methods and material for containment and cleaning up
- Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

6.4. Reference to other sections
- See section 8. SECTION 13: Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Advice on safe handling
- Do not breathe vapour/aerosol. Avoid exposure. Obtain special instructions before use. Avoid contact with skin. Avoid contact with eyes. Wear personal protection equipment (refer to section 8). When using do not eat or drink. Take precautionary measures against static discharges. Provide adequate ventilation. Provide adequate ventilation as well as local exhaustion at critical locations.

Advice on protection against fire and explosion
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges.

Further information on handling
- When using do not eat, drink or smoke. Wash hands before breaks and after work. Notice the directions for use on the label.

7.2. Conditions for safe storage, including any incompatibilities
Section 7.3 Specific end uses

No data available

Section 8 Exposure controls/personal protection

8.1 Control parameters

Exposure limits (EH40)

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>ppm</th>
<th>mg/m³</th>
<th>fibres/ml</th>
<th>Category</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6</td>
<td>Ethyl acetate</td>
<td>200</td>
<td>-</td>
<td>-</td>
<td>TWA (8 h)</td>
<td>WEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>400</td>
<td>-</td>
<td>-</td>
<td>STEL (15 min)</td>
<td>WEL</td>
</tr>
</tbody>
</table>

DNEL/DMEL values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Exposure route</th>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6</td>
<td>Ethyl acetate</td>
<td>inhalation</td>
<td>local</td>
<td>1468 mg/m³</td>
</tr>
<tr>
<td>9016-87-9</td>
<td>Isocyanic acid, polymethylenepolyphenylene ester</td>
<td>dermal</td>
<td>systemic</td>
<td>50 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, acute</td>
<td>inhalation</td>
<td>systemic</td>
<td>0,1 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, acute</td>
<td>inhalation</td>
<td>local</td>
<td>0,1 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>0,05 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, long-term</td>
<td>inhalation</td>
<td>local</td>
<td>0,05 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, acute</td>
<td>dermal</td>
<td>systemic</td>
<td>25 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, acute</td>
<td>inhalation</td>
<td>systemic</td>
<td>0,05 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, acute</td>
<td>oral</td>
<td>systemic</td>
<td>20 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, acute</td>
<td>dermal</td>
<td>local</td>
<td>17,2 mg/cm²</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, acute</td>
<td>inhalation</td>
<td>local</td>
<td>0,05 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>0,025 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>local</td>
<td>0,025 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Worker DNEL, acute</td>
<td>dermal</td>
<td>local</td>
<td>28,7 mg/cm²</td>
</tr>
</tbody>
</table>
PNEC values

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Environmental compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6</td>
<td>ethyl acetate</td>
<td>Freshwater</td>
<td>0,26 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine water</td>
<td>0,026 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater sediment</td>
<td>0,34 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine sediment</td>
<td>0,034 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soil</td>
<td>0,22 mg/kg</td>
</tr>
<tr>
<td>9016-87-9</td>
<td>isocyanic acid, polymethylene polyphenylene ester</td>
<td>Freshwater</td>
<td>1 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine water</td>
<td>0,1 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>1 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soil</td>
<td>1 mg/kg</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls
If handled uncovered, arrangements with local exhaust ventilation have to be used.

Protective and hygiene measures
When using do not eat, drink, smoke, sniff.

Eye/face protection
Wear eye/face protection.

Hand protection
Wear protective gloves. DIN EN 374: Butyl caoutchouc (butyl rubber), Thickness of the glove material: >=0,5 mm, Breakthrough time (maximum wearing time): >= 60 min

Skin protection
Wear suitable protective clothing.

Respiratory protection
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Combination filtering device (EN 14387) A2-P2. Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be exposed to any process in which this product is used.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour:</td>
<td>cloudy, yellow, brown</td>
</tr>
<tr>
<td>Odour:</td>
<td>aromatisch</td>
</tr>
<tr>
<td>pH-Value:</td>
<td>No data available</td>
</tr>
<tr>
<td>Changes in the physical state</td>
<td></td>
</tr>
<tr>
<td>Melting point:</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>77 °C</td>
</tr>
<tr>
<td>Sublimation point:</td>
<td>No data available</td>
</tr>
<tr>
<td>Softening point:</td>
<td>No data available</td>
</tr>
<tr>
<td>Pour point:</td>
<td>No data available</td>
</tr>
</tbody>
</table>
**Safety Data Sheet**

**germanBond Härter AR**

Revision date: 05.10.2018  
Product code: 63

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**Flash point:** -3 °C  
**Sustaining combustion:** No data available

**Flammability**  
**Solid:** No data available  
**Gas:** No data available

**Explosive properties**  
No data available  
**Lower explosion limits:** 2,1  
**Upper explosion limits:** 11,5  
**Ignition temperature:** No data available  

**Auto-ignition temperature**  
**Solid:** No data available  
**Gas:** No data available  
**Decomposition temperature:** No data available

**Oxidizing properties**  
No data available  
**Vapour pressure:** 100 hPa  
(at 20 °C)  
**Density (at 20 °C):** 0,97 g/cm³  
**Bulk density:** No data available  
**Water solubility:** No data available

**Solubility in other solvents**  
No data available  
**Partition coefficient:** No data available  
**Viscosity / dynamic:** No data available  
**Viscosity / kinematic:** No data available  
**Flow time:** No data available  
**Vapour density:** No data available  
**Evaporation rate:** No data available  
**Solvent separation test:** ca. 72 %  
**Solvent content:** ca. 28 %

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**  
Does not decompose when used for intended uses.

**10.2. Chemical stability**  
The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**  
Vapours may form explosive mixtures with air.

**10.4. Conditions to avoid**  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking., Moisture-sensitive.
## 10.5. Incompatible materials
Oxidizing agent, Acids, Alkali (lye)

## 10.6. Hazardous decomposition products
The product is stable under storage at normal ambient temperatures.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6</td>
<td>ethyl acetate</td>
<td>oral</td>
<td>LD50</td>
<td>5600 mg/kg</td>
<td>5600</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>18000 mg/kg</td>
<td>18000</td>
<td>Rabbit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative vapour</td>
<td>LC50</td>
<td>58 mg/l</td>
<td>58</td>
<td>Rat</td>
</tr>
<tr>
<td>9016-87-9</td>
<td>Isocyanic acid, polymethyleneepolyphenylene ester</td>
<td>oral</td>
<td>LD50</td>
<td>&gt;10000 mg/kg</td>
<td>&gt;10000</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt;9400 mg/kg</td>
<td>&gt;9400</td>
<td>Rabbit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative vapour</td>
<td>ATE</td>
<td>11 mg/l</td>
<td>11</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td></td>
<td>inhalative aerosol</td>
<td>ATE</td>
<td>1,5 mg/l</td>
<td>1,5</td>
<td>Rat</td>
</tr>
</tbody>
</table>

**SECTION 12: Ecological information**

#### 12.1. Toxicity
There are no data available on the mixture itself.

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Aquatic toxicity</th>
<th>Dose</th>
<th>[h] [d]</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6</td>
<td>ethyl acetate</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>230 mg/l</td>
<td>96 h Pimephales promelas (fathead minnow)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute crustacea toxicity</td>
<td>EC50</td>
<td>717 mg/l</td>
<td>48 h Daphnia magna (Big water flea)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9016-87-9</td>
<td>Isocyanic acid, polymethyleneepolyphenylene ester</td>
<td>Acute fish toxicity</td>
<td>LC50</td>
<td>&gt;1000 mg/l</td>
<td>96 h Brachydianio rerio (zebra-fish)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute algae toxicity</td>
<td>ErC50</td>
<td>&gt;1640 mg/l</td>
<td>72 h Desmodesmus subspicatus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 12.2. Persistence and degradability
There are no data available on the mixture itself.
12.3. Bioaccumulative potential

There are no data available on the mixture itself.

**BCF**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>BCF</th>
<th>Species</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>141-78-6</td>
<td>ethyl acetate</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9016-87-9</td>
<td>isocyanic acid, polymethylenepolyphenylene ester</td>
<td>200</td>
<td>Cyprinus carpio (Common Carp)</td>
<td></td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation.

Waste disposal number of waste from residues/unused products

080409 WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS; wastes from MFSU of adhesives and sealants (including waterproofing products); waste adhesives and sealants containing organic solvents or other hazardous substances; hazardous waste

Contaminated packaging

Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number: UN 1173
14.2. UN proper shipping name: ETHYL ACETATE, mixture
14.3. Transport hazard class(es): 3
14.4. Packing group: II
Hazard label: 3
<table>
<thead>
<tr>
<th>Classification code:</th>
<th>F1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited quantity:</td>
<td>1 L</td>
</tr>
<tr>
<td>Excepted quantity:</td>
<td>E2</td>
</tr>
<tr>
<td>Transport category:</td>
<td>2</td>
</tr>
<tr>
<td>Hazard No:</td>
<td>33</td>
</tr>
<tr>
<td>Tunnel restriction code:</td>
<td>D/E</td>
</tr>
</tbody>
</table>

**Inland waterways transport (ADN)**

14.1. **UN number:** UN 1173

14.2. **UN proper shipping name:** ETHYL ACETATE, mixture

14.3. **Transport hazard class(es):** 3

14.4. **Packing group:** II

Hazard label: 3

**Marine transport (IMDG)**

14.1. **UN number:** UN 1173

14.2. **UN proper shipping name:** ETHYL ACETATE, mixture

14.3. **Transport hazard class(es):** 3

14.4. **Packing group:** II

Hazard label: 3

Special Provisions:

- Limited quantity: 1 L
- Excepted quantity: E2

EmS: F-E, S-D

**Air transport (ICAO-TI/IATA-DGR)**

14.1. **UN number:** UN 1173

14.2. **UN proper shipping name:** ETHYL ACETATE, mixture

14.3. **Transport hazard class(es):** 3

14.4. **Packing group:** II

Hazard label: 3

Limited quantity Passenger: 1 L

Passenger LQ: Y341

Excepted quantity: E2

IATA-packing instructions - Passenger: 353

IATA-max. quantity - Passenger: 5 L

IATA-packing instructions - Cargo: 364

IATA-max. quantity - Cargo: 60 L

**14.5. Environmental hazards**
14.6. Special precautions for user
Reference to other sections: 6 - 8, Highly flammable, Keep away from food, drink and animal feedingstuffs.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
No data available

SECTION 15: Regulatory information

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

EU regulatory information
2010/75/EU (VOC): 72 % (698,4 g/l)
2004/42/EC (VOC): 72 % (698,4 g/l)
Information according to 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

National regulatory information
Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water contaminating class (D): 1 - slightly water contaminating

15.2. Chemical safety assessment
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Changes
This data sheet contains changes from the previous version in section(s): 9, 12, 15.

Relevant H and EUH statements (number and full text)

H225 Highly flammable liquid and vapour.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
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.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.
EUH066 Repeated exposure may cause skin dryness or cracking.
EUH204 Contains isocyanates. May produce an allergic reaction.

Further Information
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.

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