1 Identification

- **Product identifier**
  - Trade name: AH Plus Paste A
  - Application of the substance/the mixture: root canal filling material
  - Uses advised against: No further relevant information available.

- **Details of the supplier of the safety data sheet**
  - Manufacturer/Supplier:
    - DENTSPLY DeTrey GmbH
    - De-Trey-Str. 1
    - D-78467 Konstanz
    - GERMANY
    - Tel.: +49-(0)7531-583-0
    - Fax: +49-(0)7531-583-104
    - email: Konstanz.DEU.info-sdb@dentplysirona.com

  Supplier for CANADA:
  - Dentsply Canada
  - 161 Vinyl Court
  - Woodbridge, ON L4L 4A3
  - Tel.: (905) 851 6060 or 1-800-263-1437
  - Fax: (905) 851-9809

- **Information department**:
  - Departement Research & Development for technical information
  - Departement Marketing & Sales for distribution of the safety data sheets

- **Emergency telephone number**:
  - +49-(0)7531-583-0 8:00 - 17:00 (GMT)
  - +1-630-249-8000 8:00 – 18:30

2 Hazard identification

- **Classification of the substance or mixture**
  - Skin Irritation - Category 2 H315 Causes skin irritation.
  - Eye Irritation - Category 2A H319 Causes serious eye irritation.
  - Skin Sensitizer - Category 1 H317 May cause an allergic skin reaction.

- **Label elements**
  - **GHS label elements**
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**

- **Signal word** Warning

- **Hazard-determining components of labeling**:
  - Bisphenol A Diglycidylether
  - formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

- **Hazard statements**
  - Causes skin irritation.
  - Causes serious eye irritation.
  - May cause an allergic skin reaction.

- **Precautionary statements**
  - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - Wash thoroughly after handling.
  - Contaminated work clothing should not be allowed out of the workplace.
  - Wear protective gloves/protective clothing/eye protection/face protection.

(Contd. on page 2)
Trade name: AH Plus Paste A

If on skin: Wash with plenty of water.
If IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system
- NFPA ratings (scale 0-4)

Health = 2
Fire = 0
Reactivity = 0

3 Composition/Information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

| CAS: 25068-38-6 | Bisphenol A Diglycidylether |
| NLP: 500-033-5 | Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317 |
| \( \geq 25 \text{ - } \leq 30\% \) |

| CAS: 9003-36-5 | formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol |
| | Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317 |
| \( \geq 2.5 \text{ - } < 5\% \) |

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

4 First aid measures

- Description of first aid measures
- General information Immediately remove any clothing soiled by the product.
- After inhalation Supply fresh air and to be sure call for a doctor.
- 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 Rinse out mouth and then drink plenty of water.
  If symptoms persist consult doctor.
- Information for doctor No further relevant information available.
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed
  No further relevant information available.

5 Firefighting measures

- Extinguishing media
- Suitable extinguishing agents
  CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents
  Water with full jet.
- Special hazards arising from the substance or mixture
  Formation of toxic gases is possible during heating or in case of fire.

(Contd. on page 3)
6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures: Wear protective clothing.
- Environmental precautions:
  Do not allow product to reach sewage system or any water course.
  Inform respective authorities in case of seepage into water course or sewage system.
- 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.
- Reference to other sections
  See Section 7 for information on safe handling
  See Section 8 for information on personal protection equipment
  See Section 13 for disposal information.

7 Handling and storage

- Handling: Product is intended for dental use only.
- Precautions for safe handling:
  Ensure good ventilation/exhaustion at the workplace.
  Prevent formation of aerosols.
  Observe normal care for working with chemicals.
- Information about protection against explosions and fires:
  No special measures required.
- Conditions for safe storage, including any incompatibilities
  - Storage:
    - Requirements to be met by storerooms and receptacles: Store only in the original receptacle.
    - Information about storage in one common storage facility:
      - Not required.
    - Further information about storage conditions:
      - Store in cool, dry conditions in well-sealed receptacles.
- Specific end use(s): No further relevant information available.

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:
  The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
  - 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.
      - Avoid contact with the eyes and skin.
    - Breathing equipment: Not necessary if room is well-ventilated.
  - Protection of hands:
    - 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**
  - Nitrile rubber, NBR
  - Permeation: Level ≥3

Recommended thickness of the material: ≥ 0.38 mm

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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**
  - Tightly sealed goggles.

- **Body protection:** Protective work clothing.

---

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
  - **Appearance:**
    - Form: Pasty
    - Color: Yellow
  - **Odor:** Characteristic
  - **Odor threshold:** Not determined.
  - **pH-value:** Not determined.

- **Change in condition**
  - Melting point/Melting range: Undetermined
  - Boiling point/Boiling range: Undetermined.

- **Flash point:** Not applicable

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** Not applicable.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not self-igniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**
  - Lower: Not determined.
  - Upper: Not determined.

- **Vapor pressure:** Not determined.

- **Density:** Not determined
- **Relative density:** Not determined
- **Vapor density:** Not determined
- **Evaporation rate:** Not determined.

- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.

(Contd. on page 5)
Safety Data Sheet  
according to HPR, Schedule 1  

Printing date 10/16/2018  
Version number 11  
Reviewed on 10/16/2018  

Trade name: AH Plus Paste A  

- Partition coefficient (n-octanol/water): Not determined.  
- Viscosity:  
  > dynamic: Not determined.  
  > kinematic: Not determined.  
- Other information: No further relevant information available.  

10 Stability and reactivity  

- Reactivity: No further relevant information available.  
- 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:  
  > strong bases  
  > strong acids  
  > strong oxidants  
- Hazardous decomposition products: No dangerous decomposition products known  

11 Toxicological information  

- Information on toxicological effects  
- Acute toxicity:  
  > LD/LC50 values that are relevant for classification:  
    > ATE (Acute Toxicity Estimate)  
      > Oral: LD50 > 7,692 mg/kg (rat)  
      > Dermal: LD50 > 7,692 mg/kg (rabbit)  
    > CAS: 25068-38-6 Bisphenol A Diglycidylether  
      > Oral: LD50 > 2,000 mg/kg (rat)  
      > Dermal: LD50 > 2,000 mg/kg (rabbit)  
    > CAS: 9003-36-5 formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol  
      > Oral: LD50 > 5,000 mg/kg (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 internally approved calculation methods for preparations:  
  Irritant  

12 Ecological information  

- Toxicity  
- Aquatic toxicity:  
  > CAS: 25068-38-6 Bisphenol A Diglycidylether  
    > LC50/96h: 1.5 mg/l (Fish acute toxicity study)  
    > EC50/24h: 3.6 mg/L (daphnia magna)  
    > EC50/72h: 9.4 mg/l (Alg)  

(Contd. on page 6)
Safety Data Sheet
according to HPR, Schedule 1

Trade name: AH Plus Paste A

(Contd. of page 5)

CAS: 9003-36-5 formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

- LC50/96h 1 mg/l (Fish acute toxicity study)
- EC50/24h 2 mg/L (Daphnia magna)

- Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
- Bioaccumulative potential: No further relevant information available.
- Mobility in soil: No further relevant information available.
- Ecotoxicological effects:
- Remark: Toxic for fish
- Additional ecological information:
- General notes:
  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.
  Also poisonous for fish and plankton in water bodies.
  Toxic for aquatic organisms
- 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.

- Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number
  - DOT, TDG, IMDG, IATA
    - UN3082

- UN proper shipping name
  - DOT
    Environmentally hazardous substances, liquid, n.o.s. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)

- TDG
  3082 Environmentally hazardous substances, liquid, n.o.s. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol)

- IMDG
  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol), MARINE POLLUTANT

- IATA
  ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane)
| **Transport hazard class(es)** |  
| DOT, IMDG, IATA |  
| **Class** | 9 Miscellaneous dangerous substances and articles |
| **Label** | 9 |
| **TDG (Transport dangerous goods):** |  
| **Class** | 9 (M6) Miscellaneous dangerous substances and articles |
| **Label** | 9 |

| **Packing group** | III |

| **DOT, IMDG, IATA** |  
| **Environmental hazards:** | Product contains environmentally hazardous substances: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700) |
| **Marine pollutant:** | Yes (DOT) |
| **Special marking (TDG):** | Symbol (fish and tree) |
| **Special marking (IATA):** | Symbol (fish and tree) |

| **Special precautions for user** | Warning: Miscellaneous dangerous substances and articles |
| **Danger code (Kemler):** | 90 |
| **EMS Number:** | F-A-S-F |
| **Stowage Category** | A |

| **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

| **Transport/Additional information:** |  
| **DOT** |  
| **Remarks:** | Special marking with the symbol (fish and tree). |
| **TDG** |  
| **Excepted quantities (EQ)** | Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml |
| **Remarks:** | Exemption according to ADR special provision 375:  
This substance is not subject to the other provisions of the ADR if packed in net quantities of 5L or 5kg per individual or inner packaging, provided that subsections 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 are complied with. |

| **IMDG** |  
| **Limited quantities (LQ)** | 5L |
| **Excepted quantities (EQ)** | Code: E1  
Maximum net quantity per inner packaging: 30 ml  
Maximum net quantity per outer packaging: 1000 ml |

| **UN "Model Regulation":** | UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (REACTION PRODUCT: BISPHE-NOL-A-(EPICHLORHYDRIN) EPOXY RESIN (NUMBER AVERAGE |
**Safety Data Sheet**

according to HPR, Schedule 1

Printing date 10/16/2018 Version number 11 Reviewed on 10/16/2018

**Trade name:** AH Plus Paste A

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(Contd. of page 7)

MOLECULAR WEIGHT = 700), FORMALDEHYDE, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORO-2,3-EPOXYPROPAANE AND PHENOL, 9, III

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**15 Regulatory information**

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

  - **TLV (Threshold Limit Value established by ACGIH)**
    - CAS: 1314-23-4 zirconium oxide
    - A4

  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - None of the ingredients is listed.

  - **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**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.

The attached safety data sheet covers the dangers and measures to be taken when large quantities of material are released, for example due to accidents during transport or storage by the dealer.

For quantities of material typically used in clinical practice, information necessary for safe use and storage of the product is given in the DFU.

- **Relevant phrases**
  - H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - H319 Causes serious eye irritation.

- **Department issuing SDS:** Research & Development

- **Contact:** HotLine for urgent technical support: +49-7531-583-350

- **Date of the latest revision of the safety data sheet** 10/16/2018 / 10

- **Abbreviations and acronyms:**
  - IMO: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety

- * Data compared to the previous version altered.
1 Identification

- Product identifier
  - Trade name: AH Plus Paste B
  - Application of the substance / the mixture root canal filling material
  - Uses advised against No further relevant information available.

- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    DENTPLY DeTrey GmbH
    De-Trey-Str. 1
    D-78467 Konstanz
    GERMANY
    Tel.: +49-(0)7531-583-0
    Fax: +49-(0)7531-583-104
    email: Konstanz.DEU.info-sdb@dentsplysirona.com
  
  Supplier for CANADA:
  Dentsply Canada
  161 Vinyl Court
  Woodbridge, ON L4L4A3
  
  Tel.: (905) 851 6060 or 1-800-263-1437
  Fax: (905) 851-9809

- Information department:
  - Departement Research & Development for technical information
  - Departement Marketing & Sales for distribution of the safety data sheets

- Emergency telephone number: +49-(0)7531-583-0  8:00 - 17:00 (GMT + 1:00)

2 Hazard identification

- Classification of the substance or mixture
  - Skin Irritation - Category 2 H315 Causes skin irritation.
  - Serious Eye Damage - Category 1 H318 Causes serious eye damage.
  - Skin Sensitizer - Category 1 H317 May cause an allergic skin reaction.
  - Reproductive Toxicity - Category 2 H361 Suspected of damaging fertility or the unborn child.

- Label elements
- GHS label elements
  The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms

- Signal word Danger

- Hazard-determining components of labeling:
  - amantadine
  - octahydro-4,7-methano-1H-indenedimethylamine

- Hazard statements
  - Causes skin irritation.
  - Causes serious eye damage.
  - May cause an allergic skin reaction.
  - Suspected of damaging fertility or the unborn child.

- Precautionary statements
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

(Contd. on page 2)
Trade name: AH Plus Paste B

IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. IF exposed or concerned: Get medical advice/attention. IF skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system

- NFPA ratings (scale 0-4)
  - Health = 3
  - Fire = 0
  - Reactivity = 0

3 Composition/Information on ingredients

- Chemical characterization: Mixtures
- Description: Mixture of the substances listed below with nonhazardous additions.

- Dangerous components:

  | CAS: 113506-22-2 | N,N-Dibenzyl-5-oxanonanodiamin-1,9 |
  |  | Acute Toxicity (Oral) - Category 4, H302; Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Specific Target Organ Toxicity - Single Exposure - Category 3, H335 |
  | ≥ 10 - ≤ 13% |

  | CAS: 768-94-5 | amantadine |
  | EINECS: 212-201-2 | Reproductive Toxicity - Category 2, H361; Skin Corrosion - Category 1B, H314; Acute Toxicity (Oral) - Category 4, H302; Specific Target Organ Toxicity - Single Exposure - Category 3, H335 |
  | 5% |

  | CAS: 68889-71-4 | octahydro-4,7-methano-1H-indenedimethylamine |
  |  | Acute Toxicity (Dermal) - Category 3, H311; Skin Corrosion - Category 1B, H314; Serious Eye Damage - Category 1, H318; Acute Toxicity (Oral) - Category 4, H302; Skin Sensitizer - Category 1, H317 |
  | ≥ 0.1 - < 1% |

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

4 First aid measures

- Description of first aid measures
- General information Immediately remove any clothing soiled by the product.
- After inhalation Supply fresh air; consult doctor in case of complaints.
- After skin contact
  - Immediately wash with water and soap and rinse thoroughly.
  - If skin irritation continues, consult a doctor.
- After eye contact
  - Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing
  - Rinse out mouth and then drink plenty of water.
  - Seek medical treatment.

- Information for doctor No further relevant information available.
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed
  - No further relevant information available.
5 Firefighting measures

- Extinguishing media
  - Suitable extinguishing agents: Use fire fighting measures that suit the environment.
  - For safety reasons, unsuitable extinguishing agents: Water with full jet.
- Special hazards arising from the substance or mixture
  - Formations of toxic gases is possible during heating or in case of fire.
- Advice for firefighters
- Protective equipment: Self-contained respiratory protective device.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures
  - Wear protective equipment. Keep unprotected persons away.
- Environmental precautions: Do not allow to enter sewers’ surface or ground water.
- Methods and material for containment and cleaning up:
  - Pick up mechanically.
  - Ensure adequate ventilation.
  - Dispose contaminated material as waste according to item 13.
- Reference to other sections
  - See Section 7 for information on safe handling
  - See Section 8 for information on personal protection equipment
  - See Section 13 for disposal information

7 Handling and storage

- Handling: Product is intended for dental use only.
- Precautions for safe handling
  - Open and handle receptacle with care.
  - Ensure good ventilation/exhaustion at the workplace.
  - Observe normal care for working with chemicals.
- Information about protection against explosions and fires: Keep respiratory protective device available.
- Conditions for safe storage, including any incompatibilities
- Storage
  - Requirements to be met by storerooms and receptacles: Store only in the original receptacle.
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions: Store in cool, dry conditions in well-sealed receptacles.
  - Specific end use(s): No further relevant information available.

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:
    - The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- 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.
  - Store protective clothing separately.
Avoid contact with the eyes and skin.

- **Breathing equipment:** Not necessary if room is well-ventilated.
- **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**

  Tightly sealed goggles.

- **Body protection:** Protective work clothing.

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
  - **Form:** Pasty
  - **Color:** White
  - **Odor:** Characteristic
  - **Odor threshold:** Not determined.
- **pH-value:** Not determined.
- **Change in condition**
  - **Melting point/Melting range:** undetermined
  - **Boiling point/Boiling range:** Undetermined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:** Not applicable.
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - **Lower:** Not determined.
  - **Upper:** Not determined.
- **Vapor pressure:** Not determined.
### Safety Data Sheet

**Trade name:** AH Plus Paste B

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<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Density</td>
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<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water</td>
<td>Not miscible or difficult to mix</td>
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<tr>
<td>Partition coefficient (n-octanol/water)</td>
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<tr>
<td>Viscosity:</td>
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<tr>
<td>dynamic:</td>
<td>Not determined</td>
</tr>
<tr>
<td>kinematic:</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Solvent content:**

- **Solids content:** 85.0%
- **Other information**
  - No further relevant information available.

---

**10 Stability and reactivity**

- **Reactivity:** No further relevant information available.
- **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:**

  - **LD/LC50 values that are relevant for classification:**

    **ATE (Acute Toxicity Estimate):**
    - Oral: LD50 3,381 mg/kg (rat)
    - Dermal: LD50 66,667 - 83,333 mg/kg (rat)

    **CAS: 113306-22-2**
    - N,N'-Dibenzyl-5-oxanondiamin-1,9
      - Oral: LD50 458 mg/kg (rat)

    **CAS: 768-94-5 amantadine**
      - Oral: LD50 900 mg/kg (rat)

    **CAS: 68889-71-4 octahydro-4,7-methano-1H-indenedimethylamine**
      - Oral: LD50 502 mg/kg (rat)
      - Dermal: LD50 400 - 500 mg/kg (rat)

- **Primary irritant effect:**
  - on the skin: Irritant to skin and mucous membranes.
  - on the eye: Strong irritant with the danger of severe eye injury. Irritating effect.

- **Other information (about experimental toxicology):**
  - Product is not classified as Skin Corr. 1B (H314), as a test according to OECD 435 had shown no corrosivity to the skin.

(Contd. on page 6)
Trade name: AH Plus Paste B

Additional toxicological information:
The product shows the following dangers according to internationally approved calculation methods for preparations:
Irritant

12 Ecological information

Toxicity

Aquatic toxicity:
CAS: 768-94-5 amantadine
LC50/96h 25 mg/l (Fish acute toxicity study)
EC50/48h 22.1 mg/l (daphnia magna)

CAS: 68889-71-4 octahydro-4,7-methano-1H-indenedimethylamine
LC50/96h 125 mg/l (Fish acute toxicity study)

Persistence and degradability: No further relevant information available.
Behavior in environmental systems:
Bioaccumulative potential: No further relevant information available.
Mobility in soil: No further relevant information available.

Additional ecological information:
General notes:
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.

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.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number
DOT, TDG, ADN, IMDG, IATA: Void

UN proper shipping name
DOT, TDG, ADN, IMDG, IATA: Void

Transport hazard class(es)
DOT, TDG, ADN, IMDG, IATA: Void
Class: Void

Packing group
DOT, TDG, IMDG, IATA: Void

(Contd. on page 7)
**Trade name: AH Plus Paste B**

| Environmental hazards:                      | Not applicable. |
| Special precautions for user               | Not applicable. |
| Transport in bulk according to Annex II of | Not applicable. |
| MARPOL 73/78 and the IBC Code             |                 |
| UN "Model Regulation":                    | Void           |

**15 Regulatory information**

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

  **TLV (Threshold Limit Value established by ACGIH)**
  CAS: T314-23-4 | zirconium oxide  | A4 |

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  None of the ingredients is listed.

- **National regulations**
  - **Information about limitation of use:**
    Employment restrictions concerning women of child-bearing age must be observed.
    Employment restrictions concerning young persons must be observed.
  - **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.

The attached safety data sheet covers the dangers and measures to be taken when large quantities of material are released, for example due to accidents during transport or storage by the dealer.

For quantities of material typically used in clinical practice, information necessary for safe use and storage of the product is given in the DPU.

- **Relevant phrases**
  H302 Harmful if swallowed.
  H311 Toxic in contact with skin.
  H314 Causes severe skin burns and eye damage.
  H315 Causes skin irritation.
  H317 May cause an allergic skin reaction.
  H318 Causes serious eye damage.
  H319 Causes serious eye irritation.
  H335 May cause respiratory irritation.
  H361 Suspected of damaging fertility or the unborn child.

- **Department issuing SDS:** Research & Development
- **Contact:** HotLine for urgent technical support: +49-7531-583-350
- **Date of the latest revision of the safety data sheet:** 10/16/2018

- **Abbreviations and acronyms:**
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  ACGIH: American Conference of Governmental Industrial Hygienists
  EINECS: European Inventory of Existing Commercial Chemical Substances
  ELINCS: European List of Notified Chemical Substances
  CAS: Chemical Abstracts Service (division of the American Chemical Society)
  NFPA: National Fire Protection Association (USA)
  LC50: Lethal concentration, 50 percent
  LD50: Lethal dose, 50 percent
  PBT: Persistent, Bioaccumulative and Toxic
  vPvB: very Persistent and very Bioaccumulative
Trade name: AH Plus Paste B

NIOSH: National Institute for Occupational Safety
* Data compared to the previous version altered.