1 Identification

- **Product identifier**
  - Trade name: Akepox 5010 Component B
  - Article number: 10685, 10686, 10684, 10687
  - Relevant identified uses of the substance or mixture and uses advised against: No further relevant information available.
  - Application of the substance / the mixture: Epoxy resin adhesive, Hardening agent/ Curing agent

- **Details of the supplier of the safety data sheet**
  - Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
  - Information department: Laboratory
  - Emergency telephone number: Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
  - Details of the supplier of the safety data sheet: Tel. +49(0)911-642960, Fax. +49(0)911-644456, e-mail info@akemi.de

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - GHS05 Corrosion
    - Skin Corr. 1B H314 Causes severe skin burns and eye damage.
  - GHS07
    - Acute Tox. 4 H312 Harmful in contact with skin.

- **Response:**
  - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  - Call a POISON CENTER or doctor/physician if you feel unwell.

- **Storage:**
  - Store locked up.
  - Store in a well-ventilated place. Keep container tightly closed.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
  - Corrosive
  - Harmful
  - Irritant

(Contd. on page 2)
Trade name: Akepox 5010 Component B

- Information concerning particular hazards for human and environment:
  Contact with skin and inhalation of aerosols/vapours of the preparation should be avoided.
  Acid burns have to treated immediately, as it may otherwise cause badly curing wounds.
  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.

- Classification system:
  The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- Label elements
  - GHS label elements
    The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    GHS05  GHS07

- Signal word
  Danger

- Hazard-determining components of labeling:
  cycloaliphatic polyamines
  Benzyl alcohol

- Hazard statements
  H302+H312 Harmful if swallowed or in contact with skin.
  H314 Causes severe skin burns and eye damage.
  H317 May cause an allergic skin reaction.

- Precautionary statements
  P101 If medical advice is needed, have product container or label at hand.
  P102 Keep out of reach of children.
  P103 Read label before use.
  P260 Do not breathe vapours.
  P271 Use only outdoors or in a well-ventilated area.
  P280 Wear protective gloves/protective clothing/eye protection/face protection.
  P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
  P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  P312 Call a POISON CENTER or doctor/physician if you feel unwell.
  P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
  P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
  P337+P313 If eye irritation persists: Get medical advice/attention.
  P405 Store locked up.
  P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- Classification system:
  - NFPA ratings (scale 0 - 4)
    Health = 3
    Fire = 1
    Reactivity = 0
  - HMIS-ratings (scale 0 - 4)
    HEALTH = 3
    FIRE = 1
    REACTIVITY = 0

- Other hazards
  - Results of PBT and vPvB assessment
    PBT: Not applicable.

(Contd. of page 1)
Safety Data Sheet
acc. to OSHA HCS

Printing date 01/21/2014
Reviewed on 01/21/2014

Trade name: Akepox 5010 Component B

3 Composition/information on ingredients

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

· Dangerous components:
<table>
<thead>
<tr>
<th>Chemical</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>cycloaliphatic polyamines</td>
<td>25-50%</td>
</tr>
<tr>
<td>Benzyl alcohol</td>
<td>12.5-25%</td>
</tr>
</tbody>
</table>

CAS: 100-51-6
EINECS: 202-859-9
Index number: 603-057-00-5

· Additional information: For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

· Description of first aid measures
  · General information: Take affected persons out into the fresh air.
    Position and transport stably on side.
    Immediately remove any clothing soiled by the product.
    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.
  · After skin contact: If skin irritation continues, consult a doctor.
    Immediately wash with water and soap and rinse thoroughly.
    Immediately rinse with water.
  · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
  · After swallowing: Immediately call a doctor.
    Drink copious amounts of water and provide fresh air. Immediately call a doctor.
  · Information for doctor: Amines: Inhalation, swallowing or dermal contact may cause health damages.
    Cause burns, harm respiratory tract, eyes, skin, and digestion system in worst case up to complete destruction. Intermediate interferences such as headache, nausea, cough, dyspnea may occur. May cause allergies. Sensitized users may react towards very low amine concentrations and should avoid any further contact with this group of chemicals.
  · Most important symptoms and effects, both acute and delayed
    Headache
    Dizziness
    Nausea
    Breathing difficulty
    Coughing
  · Danger
    Indication of any immediate medical attention and special treatment needed
    If swallowed, gastric irrigation with added, activated carbon.

5 Fire-fighting measures

· Extinguishing media
  · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
Trade name: Akepox 5010 Component B

- **Special hazards arising from the substance or mixture**
  Formation of toxic gases is possible during heating or in case of fire. In case of fire, the following can be released:
  - Carbon monoxide (CO)
  - Nitrogen oxides (NOx)
  In certain fire conditions, traces of other toxic gases cannot be excluded.

- **Advice for firefighters**
  - **Protective equipment:**
    - Wear fully protective suit.
    - Wear self-contained respiratory protective device.
    - Do not inhale explosion gases or combustion gases.

- **Additional information**
  Collect contaminated fire fighting water separately. It must not enter the sewage system.
  Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  Ensure adequate ventilation
  Use respiratory protective device against the effects of fumes/dust/aerosol.
  Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:**
  Do not allow to penetrate the ground/soil.
  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.
  Do not allow to enter sewers/surface or ground water.

- **Methods and material for containment and cleaning up:**
  Dispose of the collected material according to regulations.
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Use neutralizing agent.
  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.

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### 7 Handling and storage

- **Handling:**
  - **Precautions for safe handling**
    - Keep receptacles tightly sealed.
    - Store in cool, dry place in tightly closed receptacles.
    - Use only in well ventilated areas.
    - Ensure good ventilation/exhaustion at the workplace.

  - **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.
      - Prevent any seepage into the ground.
    - **Information about storage in one common storage facility:**
      - Store away from oxidizing agents.
      - Store away from foodstuffs.
    - **Further information about storage conditions:**
      - Store receptacle in a well ventilated area.
      - Keep receptacle tightly sealed.

(Contd. on page 5)
Trade name: Akepox 5010 Component B

- Storage class: 8
- **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

<table>
<thead>
<tr>
<th>Components with limit values that require monitoring at the workplace:</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-51-6 Benzyl alcohol</td>
</tr>
<tr>
<td>WEEL</td>
</tr>
</tbody>
</table>

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

- **Exposure controls**
  - **Personal protective equipment:**
  - **General protective and hygienic measures:** Use skin protection cream for skin protection. Clean skin thoroughly immediately after handling the product. 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 and skin.

- **Breathing equipment:**
  - Use skin protection cream for skin protection. Clean skin thoroughly immediately after handling the product. 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 and skin.
  - **Short term filter device:** Filter A/P2
    - 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:** Preventive skin protection by use of skin-protecting agents is recommended. After use of gloves apply skin-cleaning agents and skin cosmetics. Akemi skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:
    - STOKO EMULSION (http://www.stoko.com)
    - Akemi skin protection recommendation for skin cleaning after product handling: SLIG SPEZIAL (http://www.stoko.com)
    - Akemi skin protection agent recommendation for skin aftercare: STOKO VITAN (http://www.stoko.com)

- **Protection of hands:**
  - The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times’ data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory anylyses of the company KCL GmbH in compliance with EN374.

This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: http://www.kcl.de).

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**
  - Butyl rubber, BR
  - Nitrile rubber, NBR
  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**
  - Value for the permeation: Level ≤ 6, 480 min
  The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **For the permanent contact gloves made of the following materials are suitable:**
  - Butyl rubber, BR
  - Butoject (KCL, Art No. 897, 898)
  - Nitrile rubber, NBR
  - Dermatril (Art No. 740, 741, 742)

- **As protection from splashes gloves made of the following materials are suitable:**
  - Nitrile rubber, NBR
  - Dermatril (KCL, Art No. 740, 741, 742)

- **Not suitable are gloves made of the following materials:**
  - Leather gloves
  - Strong gloves

- **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: Colorless
    - Odor: Characteristic
  - **pH-value:** Not applicable
- **Change in condition**
  - Melting point/Melting range: Undetermined
  - Boiling point/Boiling range: 205 °C (401 °F)
- **Flash point:** 101 °C (214 °F)
- **Ignition temperature:** 400 °C (752 °F)
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower: 1.3 Vol %
  - Upper: 13.0 Vol %
**Trade name:** Akepox 5010 Component B

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Vapor pressure at 20 °C (68 °F):</td>
<td>0.1 hPa</td>
</tr>
<tr>
<td>· Density at 20 °C (68 °F):</td>
<td>1.11 g/cm³ (9.263 lbs/gal)</td>
</tr>
<tr>
<td>· Specific gravity at 20 °C (68 °F):</td>
<td>1.11 g/cm³ (9.263 lbs/gal)</td>
</tr>
<tr>
<td>· Solubility in / Miscibility with Water:</td>
<td>Partly soluble.</td>
</tr>
<tr>
<td>· Viscosity:</td>
<td></td>
</tr>
<tr>
<td>Dynamic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Kinematic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>· Solvent content:</td>
<td></td>
</tr>
<tr>
<td>Organic solvents:</td>
<td>22.7 %</td>
</tr>
<tr>
<td>Solids content:</td>
<td>32.0 %</td>
</tr>
<tr>
<td>· Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

**10 Stability and reactivity**

- **Reactivity**
  - Chemical stability
    - Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
  - Possibility of hazardous reactions
    - Strong exothermic reaction with acids.
  - Conditions to avoid
    - No further relevant information available.
  - Incompatible materials: No further relevant information available.
  - Hazardous decomposition products: Corrosive gases/vapors

**11 Toxicological information**

- **Information on toxicological effects**
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      - cycloaliphatic polyamines
        - Oral LD50 1000 mg/kg (rat)
        - Dermal LD50 ca. 850 mg/kg (rat)
      - Benzyl alcohol
        - Oral LD50 1040 mg/kg (mouse)
        - Dermal LD50 1230 mg/kg (rat)
        - Inhalative LC50/4 h > 1000 mg/l (rat)
        - LC50/4h > 4.178 mg/m³ (rat)
        - LC50/8h 1000 ppm (rat)
        - LC50/48h 645 mg/l (goo)
  - Primary irritant effect:
    - on the skin: Caustic effect on skin and mucous membranes.
    - on the eye: Strong caustic effect.
    - Sensitization: Sensitization possible through skin contact.
Trade name: Akepox 5010 Component B

· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful
Corrosive
Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Carcinogenic categories

| IARC (International Agency for Research on Cancer) | None of the ingredients is listed. |
| NTP (National Toxicology Program) | None of the ingredients is listed. |

* 12 Ecological information

· Toxicity

| Aquatic toxicity: |

100-51-6 Benzyl alcohol

| EC50 | 21°0 mg/l (BES) (OECD 209) |
| EC50/16h | 79 mg/l (Scenedesmus quadricauda) |
| EC50/24h | 658 mg/l (psychomomas putida) |
| EC50/30min | 55-400 mg/l (daphnia magna) |
| EC50/48h | 71.4 mg/l (Photobac. phosphoreum) |
| EC50/72h | 400 mg/l (psychomomas putida) |
| EC50/96h | 230 mg/l (daphnia magna) (OECD 202) |
| IC5/96h | 770 mg/l (green alge) (OECD 201) |
| IC5/96h | 640 mg/l (Scenedesmus pluvialis) |
| LC5/96h | 640 mg/l (Scenedesmus quadricauda) |
| LC5/96h | 645 mg/l (goo) |
| NOEC/21d | 10 mg/l (lepomis macrochirus) |
| NOEC/21d | 460 mg/l (Pimephales promelas) |

* 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 undiluted product or large quantities of it to reach ground water, water course or sewage system.

Water hazard class 1 (Self-assessment): slightly hazardous for water

· 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.
**Trade name:** Akepox 5010 Component B

- **Uncleaned packagings:**
  - **Recommendation:** Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
  - **Recommended cleansing agent:** Alcohol, acetone

### 14 Transport information

- **UN-Number**
  - DOT, ADR, IMDG, IATA: UN2735

- **UN proper shipping name**
  - DOT: Polyamines, liquid, corrosive, n.o.s. (cycloaliphatic polyamines)
  - ADR: 2735 Polyamines, liquid, corrosive, n.o.s. (cycloaliphatic polyamines)
  - IMDG, IATA: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (cycloaliphatic polyamines)

- **Transport hazard class(es)**
  - **DOT**
    - Class: 8 Corrosive substances.
    - Label: 8
  - **ADR**
    - Class: 8 (C7) Corrosive substances
    - Label: 8
  - **IMDG, IATA**
    - Class: 8 Corrosive substances.
    - Label: 8

- **Packing group**
  - DOT, ADR, IMDG, IATA: III

- **Environmental hazards:**
  - Marine pollutant: No

- **Special precautions for user**
  - **Danger code (Kemler):** Warning: Corrosive substances
  - **EMS Number:** F-A,S-B
  - **Segregation groups:** Alkalis

- **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
  - Section 355 (extremely hazardous substances):
    None of the ingredient is listed.
  - Section 313 (Specific toxic chemical listings):
    None of the ingredients is listed.
  - TSCA (Toxic Substances Control Act):
    All ingredients are listed.
  - Proposition 65
  - Chemicals known to cause cancer:
    None of the ingredients is listed.
  - Chemicals known to cause reproductive toxicity for females:
    None of the ingredients is listed.
  - Chemicals known to cause reproductive toxicity for males:
    None of the ingredients is listed.
  - Chemicals known to cause developmental toxicity:
    None of the ingredients is listed.
  - Cancerogenity categories
  - EPA (Environmental Protection Agency)
    None of the ingredients is listed.
  - TLV (Threshold Limit Value established by ACGIH)
    None of the ingredients is listed.
  - MAK (German Maximum Workplace Concentration)
    None of the ingredients is listed.
  - NIOSH-Ca (National Institute for Occupational Safety and Health)
    None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    None of the ingredients is listed.

- GHS label elements
  - The product is classified and labeled according to the Globally Harmonized System (GHS).
    
- Hazard pictograms
  - GHS05
  - GHS07

- Signal word
  - Danger

- Hazard-determining components of labeling:
  - Cycloaliphatic polyamines
  - Benzyl alcohol

- Hazard statements
  - H302+H312 Harmful if swallowed or in contact with skin.
  - H314 Causes severe skin burns and eye damage.
  - H317 May cause an allergic skin reaction.
Safety Data Sheet 
acc. to OSHA HCS

Trade name: Akepox 5010 Component B

- Precautionary statements
  
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P260 Do not breathe vapours.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313 If eye irritation persists: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- National regulations:
  
- Information about limitation of use: Employment restrictions concerning young persons must be observed.
  Employment restrictions concerning pregnant and lactating women must be observed.

- Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

- VOC USA: 250.6 g/l / 2.09 lb/gl
- 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.

- Department issuing MSDS: Laboratory
- Contact: Dieter Zimmermann
- Date of preparation / last revision: 01/21/2014 / -
- Abbreviations and acronyms:
  
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
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)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent