

Printing date 05/07/2007

Reviewed on 05/07/2007

* 1 Identification of substance

· Product details

- Trade name: **Akepox 2000 Component A**
- Article number: 10617, 10618, 10619
- Application of the substance / the preparation Epoxy resin adhesive
- Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH Tel. +49(0)911-642960
Lechstrasse 28 Fax. +49(0)911-644456
D 90451 Nürnberg e-mail info@akemi.de
- Information department: Laboratory

* 2 Composition/Data on components

· Chemical characterization

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

· Dangerous components:

CAS: 25068-38-6 NLP: 500-033-5 EU Number: 603-074-00-8	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700) ☒ Xi, ☒ N; R 36/38-43-51/53	50-100%
CAS: 9003-36-5	reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700) ☒ Xi, ☒ N; R 36/38-43-51/53	12.5-25%
CAS: 16096-31-4	1.6-hexanediol diglycidyl ether ☒ Xi; R 36/38-43-52/53	12.5-25%

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

* 3 Hazards identification

· Hazard description:



Xi Irritant
N Dangerous for the environment

· Information pertaining to particular dangers for man and environment:

Contact with skin and inhalation of aerosols/ vapours of the preparation should be avoided.

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.

Irritating to eyes and skin.

May cause sensitization by skin contact.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Contains epoxy constituents. See information supplied by the manufacturer.

· Classification system:

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

· NFPA ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

· HMS-ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

* 4 First aid measures

· General information:

Immediately remove any clothing soiled by the product.
Take affected persons out into the fresh air.
Position and transport stably on side.

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- **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:** Immediately wash with water and soap and rinse thoroughly.
- **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.
Do not induce vomiting; immediately call for medical help.
- **Information for doctor:** The sensitizing effect of epoxide based resins is mainly caused by the concentration of epoxy resin polymers with a specific molecular weight ≤ 300 . The observed allergic dermal and respiratory appearances should be treated symptomatically in dependence of the severity. An epoxy resin based allergic disease belongs to a cell mediated (interaction of lymphocytes) type IV allergy.
Bisphenol-A based resins: Inhalation, swallowing or dermal incorporation may cause health damage. Irritates respiratory tract, digestion system, eyes and skin: e.g., cough, dyspnea, lacrimation, burning. May cause health interferences such as dermal changes, renal, hepatic damage, and blood count changes. May provoke skin allergies. Sensitized users can react towards very low concentrations of Bisphenol-A-Epichlorhydrine and should avoid any further contact with this chemical.
- **The following symptoms may occur:** Headache
Dizziness
Dizziness
Profuse sweating
Nausea
Allergic reactions
- **Danger** Skin contact with polyester and epoxid resin solutions as ingredient of the product should be avoided due to risks of skin irritations or allergic skin appearances. If occasional hand contact can not be avoided, protection gloves, proper protection ointments and protective agents generating a protective layer on the skin were applied.
- **Treatment** If swallowed, gastric irrigation with added, activated carbon.

5 Fire fighting measures

- **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 caused by the material, its products of combustion or resulting gases:** 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)
In certain fire conditions, traces of other toxic gases cannot be excluded.
- **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.

6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

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· **Measures for environmental protection:**

Use respiratory protective device against the effects of fumes/dust/aerosol.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow to penetrate the ground/soil.

Do not allow to enter sewers/ surface or ground water.

· **Measures for cleaning/collecting:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

Dispose of the collected material according to regulations.

· **Additional information:**

See Section 13 for disposal information.

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

* 7 Handling and storage

· **Handling:**

· **Information for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

Keep receptacles tightly sealed.

Store in cool, dry place in tightly closed receptacles.

Use only in well ventilated areas.

· **Information about protection against explosions and fires:**

No special measures required.

· **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:**

Do not store together with acids.

Do not store together with alkalis (caustic solutions).

Store away from reducing agents.

Store away from foodstuffs.

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.

Keep receptacle tightly sealed.

Store receptacle in a well ventilated area.

* 8 Exposure controls and personal protection

· **Additional information about design of technical systems:**

No further data; see item 7.

· **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.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

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.

Do not eat, drink, smoke or sniff while working.

Use skin protection cream for skin protection.

Clean skin thoroughly immediately after handling the product.

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- Breathing equipment: Not necessary if room is well-ventilated.
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:



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
After use of gloves apply skin-cleaning agents and skin cosmetics.
Preventive skin protection by use of skin-protecting agents is recommended.
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 analyses 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>).
- Material of gloves Butyl rubber, BR
Chloroprene rubber, CR
Nitrile rubber, NBR
- 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.
Value for the permeation: Level ≥ 6 , 480 min
- For the permanent contact gloves made of the following materials are suitable:
Butoject (KCL, Art No. 897, 898)
Camatril (KCL, Art No. 730, 731, 732, 733)
Camapren (KCL, Art No. 720, 722, 726)
Dermatril (Art No. 740, 741, 742)
- As protection from splashes gloves made of the following materials are suitable:
Dermatril (KCL, Art No. 740, 741, 742)
Camatril (KCL, 730, 731, 732, 733)
Camapren (KCL, Art No. 720, 722, 726)
- 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

· General Information

Form: Fluid

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<u>Color:</u>	Light yellow
<u>Odor:</u>	Weak, characteristic
· Change in condition	
<u>Melting point/Melting range:</u>	Undetermined.
<u>Boiling point/Boiling range:</u>	Undetermined.
· Flash point:	Not applicable.
· Ignition temperature:	> 300 °C°C (> 572 °C°F)
· Decomposition temperature:	> 200 °C°C (> 392 °C°F)
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Vapor pressure at 20°C (68°F):	< 0.1 hPa (< 0 mm Hg)
· Density at 20°C (68°F):	~ 1.15 g/cm ³
· Solubility in / Miscibility with	
<u>Water:</u>	Not miscible or difficult to mix.
· Viscosity:	
<u>Dynamic at 20°C (68°F):</u>	1600 - 1800 mPas

10 Stability and reactivity

- Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
No decomposition if used and stored according to specifications.
- Dangerous reactions** May produce violent reactions with bases and numerous organic substances including alcohols and amines.
Reacts with strong acids.
Reacts with reducing agents.
- Dangerous products of decomposition:** Irritant gases/vapors

11 Toxicological information**· Acute toxicity:**

· LD/LC50 values that are relevant for classification:

25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)

Oral	LD50	> 10000 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rat)

16096-31-4 1.6-hexanediol diglycidyl ether

Oral	LD50	2900-8500 mg/kg (rat)
Dermal	LD50	> 2000 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

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12 Ecological information**· Ecotoxicological effects:****· Aquatic toxicity:**

25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)

EC50/24h 1.1-3.6 mg/l (daphnia magna)

EC50/96h 220 mg/l (green alga)

LC50/96h 1.5-7.7 mg/l (rainbow trout)

16096-31-4 1.6-hexanediol diglycidyl ether

EC50/48h 47 mg/l (daphnia magna)

LC50/96h 17-31 mg/l (Oncorhynchus mykiss)

· Remark:

Toxic for fish

· General notes:

Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (Self-assessment): hazardous for water
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms

13 Disposal considerations**· Product:****· 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.

Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

· Recommended cleansing agent:

Alcohol
acetone

14 Transport information**· DOT regulations:****· Hazard class:**

9

· Identification number:

UN3082

· Packing group:

III

· Proper shipping name (technical name): ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number averagemolecular weight ≤ 700), reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number averagemolecular weight ≤ 700))

· Label

9

· Land transport ADR/RID (cross-border):**· ADR/RID class:**

9 (M6) Miscellaneous dangerous substances and articles

· Danger code (Kemler):

90

· UN-Number:

3082

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Trade name: Akepox 2000 Component A

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· Packaging group: III
 · Description of goods: 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average molecular weight ≤ 700))

· Maritime transport IMDG:

· IMDG Class: 9
 · UN Number: 3082
 · Label: 9
 · Packaging group: III
 · Marine pollutant: Yes
 · Propper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number averagemolecular weight ≤ 700), reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number averagemolecular weight ≤ 700))

· Air transport ICAO-TI and IATA-DGR:

· ICAO/IATA Class: 9
 · UN/ID Number: 3082
 · Label: 9
 · Packaging group: III
 · Propper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol A-(epichlorhydrin); epoxy resin (number averagemolecular weight ≤ 700), reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number averagemolecular weight ≤ 700))

15 Regulations· Sara· 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.

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Trade name: AkepoX 2000 Component A

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- Carcinogenicity categories

- EPA (Environmental Protection Agency)

None of the ingredients is listed.

- IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

- NTP (National Toxicology Program)

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.

- **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

- Hazard symbols:



Xi Irritant
N Dangerous for the environment

- Hazard-determining components of labelling:

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)
reaction product: bisphenol F-(epichlorhydrin); epoxy resin (number average molecular weight \leq 700)
1.6-hexanediol diglycidyl ether

- Risk phrases:

Irritating to eyes and skin.
May cause sensitization by skin contact.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

- Safety phrases:

Keep out of the reach of children.
Do not breathe fumes
Avoid contact with skin and eyes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point
Wear suitable protective clothing, gloves and eye/face protection.
If swallowed, seek medical advice immediately and show this container or label.
Use only in well-ventilated areas.

- Special labeling of certain preparations:

Contains epoxy constituents. See information supplied by the manufacturer.

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

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· VOC USA 0.0 g/l**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
- * Data compared to the previous version altered.

USA