Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 31.01.2011 Revision: 31.01.2011

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

· **Product identifier**
· Trade name: **Akepox 1005 Component A**

· Article number: 10676, 10678, 10679, 10689, 10691, 10699, 11661, 11662, 11663, 11664, 11666, 11686, 10573, 11656, 11658, 11659, 11665, 12661
· Relevant identified uses of the substance or mixture and uses advised against
· Application of the substance / the preparation: Reaction resin

· **Details of the supplier of the safety data sheet**
· Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg
Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

· Further information obtainable from: Laboratory
· Emergency telephone number: Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.

* **2 Hazards identification**

· **Classification of the substance or mixture**
· Classification according to Regulation (EC) No 1272/2008


GHS08 health hazard

Muta. 2	H341	Suspected of causing genetic defects.
Repr. 2	H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.


GHS05 corrosion

Eye Dam. 1	H318	Causes serious eye damage.


GHS09 environment

Aquatic Chronic 2	H411	Toxic to aquatic life with long lasting effects.


GHS07

Skin Sens. 1	H317	May cause an allergic skin reaction.
Skin Irrit. 2	H315	Causes skin irritation.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC


Xn; Harmful

R68: Possible risk of irreversible effects.


Xi; Irritant

R36/38: Irritating to eyes and skin.


Xi; Sensitising

R43: May cause sensitisation by skin contact.

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N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· Information concerning particular hazards for human 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.

· Classification system: The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· **Label elements**

· Labelling according to EU guidelines: The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· Code letter and hazard designation of product:


Xn Harmful
N Dangerous for the environment

· Hazard-determining components of labelling: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)
2,3-epoxypropyl o-tolyl ether

· Risk phrases:
36/38 Irritating to eyes and skin.
43 May cause sensitisation by skin contact.
68 Possible risk of irreversible effects.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

· Safety phrases:
2 Keep out of the reach of children.
23 Do not breathe fumes.
24/25 Avoid contact with skin and eyes.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
27/28 After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
29/56 Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
46 If swallowed, seek medical advice immediately and show this container or label.
51 Use only in well-ventilated areas.

· Special labelling of certain preparations: Contains epoxy constituents. See information supplied by the manufacturer.

· **Other hazards**

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

* **3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

· Description: Mixture of substances listed below with nonhazardous additions.

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· Dangerous components:

CAS: 25068-38-6 NLP: 500-033-5 Index number: 603-074-00-8	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700) Xi R36/38; Xi R43; N R51/53 Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	50-100%
CAS: 2210-79-9 EINECS: 218-645-3 Index number: 603-056-00-X	2,3-epoxypropyl o-tolyl ether Xn R68; Xi R38; Xi R43; N R51/53 Muta. 2, H341; Aquatic Chronic 2, H411; Skin Irrit. 2, H315; Skin Sens. 1, H317	12.5-25%
CAS: 100-51-6 EINECS: 202-859-9 Index number: 603-057-00-5	Benzyl alcohol Xn R20/22 Acute Tox. 4, H302; Acute Tox. 4, H332	<12.5%
CAS: 25154-52-3 EINECS: 246-672-0 Index number: 601-053-00-8	nonylphenol C R34; Xn R22-62-63; N R50/53 Repr. 2, H361fd; Skin Corr. 1B, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302	1-5%
CAS: 2530-83-8 EINECS: 219-784-2	[3-(2,3-epoxypropoxy)propyl]trimethoxysilane Xi R41; N R51/53 Flam. Liq. 3, H226; Eye Dam. 1, H318; Aquatic Chronic 2, H411	1-5%

· 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 in side position.
Immediately remove any clothing soiled by the product.

· 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.

· 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.

· 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.

· Most important symptoms and effects, both acute and delayed
Breathing difficulty
Coughing
Profuse sweating
Headache
Dizziness
Dizziness

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· Hazards
Allergic reactions
Nausea
Danger of impaired breathing.
Skin contact with polyester and epoxy 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.

· Indication of any immediate medical attention and special treatment needed
If swallowed, gastric irrigation with added, activated carbon.

* **5 Firefighting measures**

· **Extinguishing media**
· Suitable extinguishing agents: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **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)
Hydrogen chloride (HCl)
Under 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.

* **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.

· **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 material collected according to regulations.
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 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:**
· Precautions for safe handling
Keep receptacles tightly sealed.

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Store in cool, dry place in tightly closed receptacles.
Use only in well ventilated areas.
Ensure good ventilation/exhaustion at the workplace.

· Information about fire - and explosion protection: 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 reducing agents.
· Further information about storage conditions: Store receptacle in a well ventilated area.
Keep container tightly sealed.

*

8 Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Control parameters**
· Ingredients 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 valid during the making were used as basis.

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

· Respiratory protection: Not necessary if room is well-ventilated.
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 self-contained respiratory protective device.

· 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.
STOKO EMULSION (http://www.stoko.com)
SLIG SPEZIAL (http://www.stoko.com)
STOKO VITAN (http://www.stoko.com)

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
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

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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)
Camatril (KCL, Art No. 730, 731, 732, 733)

· As protection from splashes gloves made of the following materials are suitable:
Butyl rubber, BR
Fluorocarbon rubber (Viton)
Nitrile rubber, NBR
Camatril (KCL, 730, 731, 732, 733)

· Not suitable are gloves made of the following materials:
Natural rubber, NR
Leather gloves
Strong material 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:	Fluid
Colour:	Various colours
· Odour:	Characteristic
· pH-value:	Not applicable
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	> 200°C
· Flash point:	Not applicable.
· Ignition temperature:	435°C
· Decomposition temperature:	> 200 °C°C
· Self-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 %
· Vapour pressure at 20°C:	2 hPa
· Density at 20°C:	1.14 g/cm³

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· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Viscosity: Dynamic at 20°C:	400 mPas

* **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** May produce violent reactions with bases and numerous organic substances including alcohols and amines.
Exothermic polymerization.
Reacts with strong acids.
· **Hazardous decomposition products:** Irritant gases/vapours

* **11 Toxicological information**

· **Information on toxicological effects**
· Acute toxicity:

· LD/LC50 values relevant for classification:

25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)		
Oral	LD50	20000 mg/kg (mouse)
		19800 mg/kg (rabbit)
		30000 mg/kg (rat)
Dermal	LD50	1270 mg/kg (mouse)
		> 2000 mg/kg (rabbit)
		> 1200 mg/kg (rat)
2210-79-9 2,3-epoxypropyl o-tolyl ether		
Oral	LD50	3700 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
Inhalative	LC50/4 h	6.09 mg/l (rat)
25154-52-3 nonylphenol		
Oral	LD50	200-2000 mg/kg (rat)
Dermal	LD50	2140 mg/kg (rabbit)

· 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 the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant
· Sensitisation May cause sensitisation by skin contact.

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* **12 Ecological information**

· **Toxicity**

· Acquatic 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)
EC50/48h	2.8 mg/l (daphnia magna)
EC50/96h	220 mg/l (green alge)
	3.6 mg/l (Leuciscus idus)
LC50/96h	1.5-7.7 mg/l (rainbow trout)
2210-79-9 2,3-epoxypropyl o-tolyl ether	
EC50/48h	3.3 mg/l (daphnia magna)
LC50/96h	7.5 mg/l (Oncorhynchus mykiss)
25154-52-3 nonylphenol	
EC50/48h	0.01-0.1 mg/l (daphnia magna)
EC50/72h	0.1-1 mg/l (Scenedesmus subspicatus)
LC50/96h	0.1-1 mg/l (Pimephales promelas)

· **Ecotoxical effects:**
· Remark: Toxic for fish
· **Additional ecological information:**
· General notes: Do not allow product to reach ground water, water course or sewage system.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
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.

* **13 Disposal considerations**

· **Waste treatment methods**
· Recommendation Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· European waste catalogue	
20 00 00	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01 00	separately collected fractions (except 15 01)
20 01 27*	paint, inks, adhesives and resins containing dangerous substances

· **Uncleaned packaging:**
· Recommendation: Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
· Recommended cleansing agents: Alcohol
acetone

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* **14 Transport information**

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

· ADR/RID class:	9 (M6) Miscellaneous dangerous substances and articles.
· Danger code (Kemler):	90
· UN-Number:	3082
· Packaging group:	III
· Hazard label	9
· Special marking:	Symbol (fish and tree)
· UN proper shipping name:	3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), 2,3-epoxypropyl o-tolyl ether)
· Limited quantities (LQ)	LQ7
· Transport category	3
· Tunnel restriction code	E

· **Maritime transport IMDG:**

· IMDG Class:	9
· UN Number:	3082
· Label	9
· Packaging group:	III
· EMS Number:	F-A,S-F
· Marine pollutant:	Yes Symbol (fish and tree)
· Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), 2,3-epoxypropyl o-tolyl ether)

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

· ICAO/IATA Class:	9
· UN/ID Number:	3082
· Label	9
· Special marking:	Symbol (fish and tree)
· Packaging group:	III
· Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), 2,3-epoxypropyl o-tolyl ether)

· **UN "Model Regulation":**

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., 9, III

· **Special precautions for user** Warning: Miscellaneous dangerous substances and articles.

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* **15 Regulatory information**

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

· National regulations:

· Information about limitation of use: Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

· Waterhazard class: Water hazard class 2 (Self-assessment): hazardous for water.
· VOC EU 90.2 g/l
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* **16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
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.
H332 Harmful if inhaled.
H341 Suspected of causing genetic defects.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

R20/22 Harmful by inhalation and if swallowed.
R22 Harmful if swallowed.
R34 Causes burns.
R36/38 Irritating to eyes and skin.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R43 May cause sensitisation by skin contact.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62 Possible risk of impaired fertility.
R63 Possible risk of harm to the unborn child.
R68 Possible risk of irreversible effects.

· Recommended restriction of use refer to Technical Data Sheet (TDS)

· **Department issuing MSDS:** Laboratory
· **Contact:** Dieter Zimmermann
Elke Hake
Fon ++49 (0)911 64296-59
@mail E.Hake@akemi.de

· Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

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ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

· * Data compared to the previous version altered.

Adaptation in accordance with REACH directive 1907/2006/EC