Safety Data Sheet
acc. to OSHA HCS

Printing date 05/06/2020 Reviewed on 05/06/2020

*
1 Identification

· **Product identifier**
· Trade name: **Akepox 2010 Component A**

· Article number: 10616, 10623, 10624, 10615, 10627, 10598, 11643, 11644, 11645
· Application of the substance / the mixture: Epoxy resin adhesive

· **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

· Information department: 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 Hazard(s) identification

· **Classification of the substance or mixture**


GHS07

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
Skin Sens. 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:


GHS07

· Signal word: Warning
· Hazard-determining components of labeling:
bis[4-(2,3-epoxypropoxy)phenyl]propane
bisphenol F-(epichlorhydrin); epoxy resin
1.6-hexanediol diglycidyl ether
· Hazard statements:
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
· Precautionary statements:

P261	Avoid breathing vapours.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	If on skin: Wash with plenty of water.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

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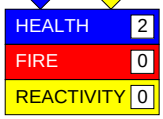
· **Classification system:**
· NFPA ratings (scale 0 - 4)

Health = 2
Fire = 0
Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 2
Fire = 0
Reactivity = 0

· **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 the substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 1675-54-3 EINECS: 216-823-5 Index number: 603-073-00-2	bis[4-(2,3-epoxypropoxy)phenyl]propane Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	50-100%
CAS: 9003-36-5 NLP: 500-006-8	bisphenol F-(epichlorhydrin); epoxy resin Skin Irrit. 2, H315; Skin Sens. 1, H317	12.5-25%
CAS: 16096-31-4 EINECS: 240-260-4	1.6-hexanediol diglycidyl ether Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	12.5-25%

· 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: Take affected persons out into the fresh air.
Position and transport stably on side.
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: 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 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.
· Most important symptoms and effects, both acute and delayed: Breathing difficulty
Headache

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Dizziness
Nausea
Allergic reactions

· Danger — 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 Fire-fighting measures**

· **Extinguishing media**
· Suitable extinguishing agents: CO2, extinguishing 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)
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.

* **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 collected material according to regulations.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.

· **Protective Action Criteria for Chemicals**

· PAC-1:		
1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	39 mg/m³
67762-90-7	Siloxanes and silicones, di-Me, reaction product with silica	120 mg/m³

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· PAC-2:		
1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	430 mg/m³
67762-90-7	Siloxanes and silicones, di-Me, reaction product with silica	1,300 mg/m³

· PAC-3:		
1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	2,600 mg/m³
67762-90-7	Siloxanes and silicones, di-Me, reaction product with silica	7,900 mg/m³

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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 reducing agents.
Store away from foodstuffs.
· Further information about storage conditions: Store receptacle in a well ventilated area.
Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

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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: Do not eat, drink, smoke or sniff while working.
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: Not necessary if room is well-ventilated.
Short term filter device:

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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.
Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:
Stokoderm Protect PURE (http://www.debstoko.com)
Skin protection recommendation for skin cleaning after product handling:
Kresto Classic (http://debstoko.com)
Skin protection agent recommendation for skin aftercare:
Stokolan Light PURE (http://www.debstoko.com)
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
Chloroprene rubber, CR
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
Camatril (KCL, Art_No. 730, 731, 732, 733)
Dermatril (Art_No. 740, 741, 742)
Chloroprene rubber, CR
Camapren (KCL, Art_No. 720, 722, 726)

· As protection from splashes gloves made of the following materials are suitable:
Nitrile rubber, NBR

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Dermatril (KCL, Art_No. 740, 741, 742)
Camatril (KCL, Art_No. 730, 731, 732, 733)
Chloroprene rubber, CR
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**

· **Information on basic physical and chemical properties**	
· General Information	
· Appearance:	
Form:	Pasty
Color:	Light yellow
· Odor:	Characteristic
· pH-value:	Not applicable
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	> 200 °C (> 392 °F)
· Flash point:	Not applicable.
· Ignition temperature:	400 °C (752 °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):	2 hPa (1.5 mm Hg)
· Density at 20 °C (68 °F):	1.18 g/cm³ (9.85 lbs/gal)
· Specific gravity at 20 °C (68 °F):	1.18 g/cm³ (9.85 lbs/gal)
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
· Viscosity:	
Dynamic:	Not determined. Not applicable
Kinematic:	Not determined. Not applicable
· Solvent content:	
Organic solvents:	0.0 %
Solids content:	100.0 %
· **Other information**	No further relevant information available.

* **10 Stability and reactivity**

· **Reactivity** No further relevant information available.

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· 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.
Reacts with reducing agents.
Reacts with strong acids.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** Irritant gases/vapors

* **11 Toxicological information**

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

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)		
Oral	LD50	>4,126 mg/kg
Dermal	LD50	>5,340 mg/kg
Inhalative	LC50/4 h	>554 mg/l (mouse)

1675-54-3 bis[4-(2,3-epoxypropoxy)phenyl]propane		
Oral	LD50	15,000 mg/kg (rat)
Dermal	LD50	23,000 mg/kg (rabbit)
9003-36-5 bisphenol F-(epichlorhydrin); epoxy resin		
Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
		>2,000 mg/kg (rat)
16096-31-4 1.6-hexanediol diglycidyl ether		
Oral	LD50	1,400 mg/kg (mouse)
		8,500 mg/kg (rat)
Dermal	LD50	>4,900 mg/kg (rabbit)
	LD50	>4,900 mg/kg (rat)
Inhalative	LC50/4 h	>100 mg/l (mouse)
	LC50/48h	23.1 mg/l (green alge)

· 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

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	3

· NTP (National Toxicology Program)

None of the ingredients is listed.

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· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

* **12 Ecological information**

· **Toxicity**

· Aquatic toxicity:

1675-54-3 bis[4-(2,3-epoxypropoxy)phenyl]propane	
IC50	>100 mg/l (BES)
EC10/16h	100 mg/l (pseudomonas putida)
EC50/48h	1.8 mg/l (daphnia magna)
NOEC/21d	0.3 mg/l (daphnia magna)
EC50/72h	11 mg/l (selenastrum capricornutum)
LC50/96h	2 mg/l (Oncorhynchus mykiss)
9003-36-5 bisphenol F-(epichlorhydrin); epoxy resin	
IC50	>100 mg/l (BES)
	>100 mg/l (bacteria)
EC50/48h	2.55 mg/l (daphnia magna) (OECD 202: Part I)
NOEC	0.3 mg/kg (daphnia magna) (OECD 211)
EC50/72h	1.8 mg/l (green alge) (OECD 201)
	1.8 mg/l (Selenastrum capricornutum)
LC50/96h	0.55 mg/l (piscis) (OECD 203)
	2.54 mg/l (Leuciscus idus)
	0.55 mg/l (Oncorhynchus mykiss)
16096-31-4 1.6-hexanediol diglycidyl ether	
EC50/48h	67 mg/l (daphnia magna)
EC50/48h	67 mg/l (daphnia magna)
LC50/96h	1.1 mg/l (goo)
	30 mg/l (Oncorhynchus mykiss)
LC50/72h	30 mg/l (Oncorhynchus mykiss)

· **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.
· **Ecotoxical effects:**
· Remark: Toxic for fish
· **Additional ecological information:**
· General notes: Do not allow product to reach ground water, water course or sewage system.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Water hazard class 2 (Self-assessment): hazardous for water
· **Results of PBT and vPvB assessment**
· PBT: Not applicable.
· vPvB: Not applicable.
· **Other adverse effects** No further relevant information available.

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* **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: 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: UN3082

· **UN proper shipping name**
· DOT: Environmentally hazardous substance, liquid, n.o.s. (bis[4-(2,3-epoxypropoxy)phenyl]propane, bisphenol F-(epichlorhydrin); epoxy resin)
· ADR: 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis[4-(2,3-epoxypropoxy)phenyl]propane, bisphenol F-(epichlorhydrin); epoxy resin)
· IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis[4-(2,3-epoxypropoxy)phenyl]propane, bisphenol F-(epichlorhydrin); epoxy resin), MARINE POLLUTANT
· IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis[4-(2,3-epoxypropoxy)phenyl]propane, bisphenol F-(epichlorhydrin); epoxy resin)

· **Transport hazard class(es)**

· DOT, IMDG, IATA

· Class: 9 Miscellaneous dangerous substances and articles
· Label: 9

· ADR

· Class: 9 (M6) Miscellaneous dangerous substances and articles
· Label: 9

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

· **Environmental hazards:** Product contains environmentally hazardous substances:
· Marine pollutant: Yes
Symbol (fish and tree)
· Special marking (ADR): Symbol (fish and tree)
· Special marking (IATA): Symbol (fish and tree)

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

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· Hazard identification number (Kemler code):	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	
· Quantity limitations	On passenger aircraft/rail: No limit On cargo aircraft only: No limit
· Remarks:	Special marking with the symbol (fish and tree).
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· 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 SUBSTANCE, LIQUID, N.O.S. (BIS[4-(2,3-EPOXYPROPOXY)PHENYL]PROPANE, BISPHENOL F-(EPICHLORHYDRIN); EPOXY RESIN), 9, III

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15 Regulatory information

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

· 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 components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is 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.

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· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)

1675-54-3	bis[4-(2,3-epoxypropoxy)phenyl]propane	3A

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

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

· Hazard pictograms

GHS07

· Signal word: Warning

· Hazard-determining components of labeling:
bis[4-(2,3-epoxypropoxy)phenyl]propane
bisphenol F-(epichlorhydrin); epoxy resin
1.6-hexanediol diglycidyl ether

· Hazard statements
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.

· Precautionary statements

P261	Avoid breathing vapours.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	If on skin: Wash with plenty of water.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
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 2 (Self-assessment): hazardous for water.

· VOC USA: 0.0 g/l / 0.00 lb/gal

· **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.

· **Department issuing SDS:** Laboratory

· **Contact:** Elke Hake
Fon ++49 (0)911 64296-59
@mail E.Hake@akemi.de

· Date of preparation / last revision 05/06/2020 / 4

· 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 Organisation
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

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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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1

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*
1 Identification

· **Product identifier**
· Trade name: **Akepox 2010 Component B**

· Article number: 10616, 10623, 10624, 10627, 10598, 10615, 10643, 10644, 10645
· Application of the substance / the mixture: Epoxy resin adhesive

· **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

· Information department: 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 Hazard(s) identification

· **Classification of the substance or mixture**


GHS08 Health hazard

Muta. 2	H341	Suspected of causing genetic defects.
Repr. 2	H361	Suspected of damaging fertility or the unborn child.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.


GHS05 Corrosion

Skin Corr. 1B	H314	Causes severe skin burns and eye damage.
Eye Dam. 1	H318	Causes serious eye damage.


GHS07

Acute Tox. 4	H302	Harmful if swallowed.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Sens. 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


GHS05 GHS07 GHS08

· Signal word: Danger
· Hazard-determining components of labeling: 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine
Benzyl alcohol
4-nonylphenol, branched
phenol

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formaldehyde polymer with 1,3-benzenedimethanamine and phenol
m-phenylenebis(methylamine)
N-(3-(trimethoxysilyl)propyl)ethylenediamine
3-aminomethyl-3,5,5-trimethylcyclohexylamine

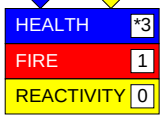
· Hazard statements
H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements
P260 Do not breathe vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 If on skin (or hair): 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.
P310 Immediately call a poison center/doctor.
P333+P313 If skin irritation or rash occurs: 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.

· vPvB:	
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine

*
3 Composition/information on ingredients

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

· Dangerous components:

CAS: 38294-64-3 NLP: 500-101-4	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine Skin Corr. 1B, H314; Eye Dam. 1, H318 Skin Sens. 1, H317	25-50%
CAS: 1950616-36-0 EC number: 701-207-5	formaldehyde polymer with 1,3-benzenedimethanamine and phenol Skin Corr. 1B, H314; Eye Dam. 1, H318 Skin Sens. 1, H317	12.5-25%
CAS: 100-51-6 EINECS: 202-859-9 Index number: 603-057-00-5	Benzyl alcohol Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	12.5-25%

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CAS: 1477-55-0 EINECS: 216-032-5	m-phenylenebis(methylamine) Skin Corr. 1B, H314; Eye Dam. 1, H318 Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Sens. 1, H317	<10%
CAS: 84852-15-3 EINECS: 284-325-5 Index number: 601-053-00-8	4-nonylphenol, branched Repr. 2, H361 Skin Corr. 1B, H314 Acute Tox. 4, H302	1-5%
CAS: 69-72-7 EINECS: 200-712-3 Index number: 607-732-00-5	salicylic acid Repr. 2, H361 Eye Dam. 1, H318 Acute Tox. 4, H302	1-5%
CAS: 108-95-2 EINECS: 203-632-7 Index number: 604-001-00-2	phenol Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 Muta. 2, H341; STOT RE 2, H373 Skin Corr. 1B, H314; Eye Dam. 1, H318	1-5%
CAS: 1760-24-3 EINECS: 217-164-6	N-(3-(trimethoxysilyl)propyl)ethylenediamine vPvB Eye Dam. 1, H318 Skin Sens. 1, H317	1-5%
CAS: 2855-13-2 EINECS: 220-666-8 Index number: 612-067-00-9	3-aminomethyl-3,5,5-trimethylcyclohexylamine Skin Corr. 1B, H314; Eye Dam. 1, H318 Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317	<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: 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.

· 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: The symptoms of phenol based poisoning appearances are white coloured mouth scabs, shock condition, insensibility, bradycardia and renal dysfunction and damage of renal tissue. Appropriate therapy measures: Administration of an adequate volume of liquid, gastrolavage in application of carbo medicinalis, sodium sulphate with plenty of water, infusion of glucose solution (5%); maesures against state of shock, hemodialysis.
Nonylphenol based exposition: causes corrosive burns, damages respiratory tract, eyes, skin and digestive system up to complete tissue destruction. Temporary dysfunctions such as dizziness, headache, nausea and diarrhea may occur. Can cause health disturbances like dermal bleaching, renal and hepatic damage.
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

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contact with this group of chemicals.

· Most important symptoms and effects, both acute and delayed
Headache
Dizziness
Dizziness
Nausea
Breathing difficulty

· Danger
Danger of impaired breathing.

· 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.

· **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.
Mount respiratory protective device.

· **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.
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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· **Protective Action Criteria for Chemicals**

· PAC-1:		
100-51-6	Benzyl alcohol	30 ppm
67762-90-7	Siloxanes and silicones, di-Me, reaction product with silica	120 mg/m³
84852-15-3	4-nonylphenol, branched	3.9 mg/m³
108-95-2	phenol	15 ppm
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	23 mg/m³
107-15-3	ethylenediamine	0.88 ppm
67-56-1	methanol	530 ppm

· PAC-2:		
100-51-6	Benzyl alcohol	52 ppm
67762-90-7	Siloxanes and silicones, di-Me, reaction product with silica	1,300 mg/m³
84852-15-3	4-nonylphenol, branched	43 mg/m³
108-95-2	phenol	23 ppm
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	250 mg/m³
107-15-3	ethylenediamine	9.7 ppm
67-56-1	methanol	2,100 ppm

· PAC-3:		
100-51-6	Benzyl alcohol	740 ppm
67762-90-7	Siloxanes and silicones, di-Me, reaction product with silica	7,900 mg/m³
84852-15-3	4-nonylphenol, branched	260 mg/m³
108-95-2	phenol	200 ppm
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	1,500 mg/m³
107-15-3	ethylenediamine	20 ppm
67-56-1	methanol	7200* ppm

*

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.

· Storage class: 8

· **Specific end use(s)** No further relevant information available.

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* **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 following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

100-51-6 Benzyl alcohol	
WEEL	Long-term value: 10 ppm
1477-55-0 m-phenylenebis(methylamine)	
REL	Ceiling limit value: 0.1 mg/m³ Skin
TLV	Ceiling limit value: 0.1 mg/m³, 0.018 ppm Skin
108-95-2 phenol	
PEL	Long-term value: 19 mg/m³, 5 ppm Skin
REL	Long-term value: 19 mg/m³, 5 ppm Ceiling limit value: 60* mg/m³, 15.6* ppm *15-min; Skin
TLV	Long-term value: 19 mg/m³, 5 ppm Skin; BEI

· Ingredients with biological limit values:

108-95-2 phenol	
BEI	250 mg/g creatinine Medium: urine Time: end of shift Parameter: Phenol with hydrolysis (background, nonspecific)

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

· **Exposure controls**

· Personal protective equipment:

· General protective and hygienic measures:
Do not eat, drink, smoke or sniff while working.
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: 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 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.
Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:

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Stokoderm Protect PURE (http://www.debstoko.com)
Skin protection recommendation for skin cleaning after product handling:
Kresto Classic (http://debstoko.com)
Skin protection agent recommendation for skin aftercare:
Stokolan Light PURE (http://www.debstoko.com)
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
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
Camatril (KCL, Art_No. 730, 731, 732, 733)
Dermatril (Art_No. 740, 741, 742)
Chloroprene rubber, CR
Camapren (KCL, Art_No. 720, 722, 726)

· As protection from splashes gloves made of the following materials are suitable:
Nitrile rubber, NBR
Camatril (KCL, Art_No. 730, 731, 732, 733)
Chloroprene rubber, CR
Camapren (KCL, Art_No. 720, 722, 726)

· Not suitable are gloves made of the following materials:
Natural rubber, NR
Fluorocarbon rubber (Viton)
Leather gloves
Strong gloves

· Eye protection:

Tightly sealed goggles

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· Body protection: Protective work clothing

* **9 Physical and chemical properties**

· **Information on basic physical and chemical properties**	
· General Information	
· Appearance:	
Form:	Pasty
Color:	Light yellow
· 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 (213.8 °F)
· Ignition temperature:	380 °C (716 °F)
· Decomposition temperature:	> 250 °C (> 482 °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 Vol %
· Vapor pressure at 20 °C (68 °F):	0.1 hPa
· Density at 20 °C (68 °F):	1.08 g/cm³ (9.01 lbs/gal)
· Specific gravity at 20 °C (68 °F):	1.08 g/cm³ (9.01 lbs/gal)
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	11.5 %
Solids content:	84.7 %
· **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 and stored according to specifications.
· **Possibility of hazardous reactions** Strong exothermic reaction with acids.
Reacts with strong oxidizing agents.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.

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· **Hazardous decomposition products:** Corrosive gases/vapors

* **11 Toxicological information**

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

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)		
Oral	LD50	>1,977 mg/kg
Dermal	LD50	>4,428 mg/kg
Inhalative	LC50/4 h	14.8 mg/l

1950616-36-0 formaldehyde polymer with 1,3-benzenedimethanamine and phenol		
Oral	LD50	>2,000 mg/kg (rat)
Dermal	LD50	>2,020 mg/kg (rat)
100-51-6 Benzyl alcohol		
Oral	LD50	1,040 mg/kg (mouse)
		1,040 mg/kg (rabbit)
		1,620 mg/kg (rat)
	NOEL	400 mg/kg (rat)
	NOAEL	200 mg/kg (mouse)
		400 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)
Inhalative	LC50/8h	1,000 ppm (rat)
	LC50/4 h	11 mg/l (rat)
	LC50/48h	360 mg/l (daphnia magna)
		645 mg/l (goo)
1477-55-0 m-phenylenebis(methylamine)		
Oral	LD50	930 mg/kg (rat)
	NOEL	150 mg/kg (rat)
Dermal	LD50	3,100 mg/kg (rabbit)
Inhalative	LC50/4 h	2.4 mg/l (rat)
	LC50/1h	3.89 mg/l (rat)
84852-15-3 4-nonylphenol, branched		
Oral	LD50	1,210 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
Inhalative	LC50/4 h	3.636 mg/l (mouse)
69-72-7 salicylic acid		
Oral	LD50	891 mg/kg (rat)
	NOAEL-Werte	250 mg/kg (rat) (OECD 416)
Dermal	LD50	>2,000 mg/kg (rabbit)
	LC50/48h	90 mg/l (Leuciscus idus)
108-95-2 phenol		
Oral	LD50	300 mg/kg (mouse)
		317 mg/kg (rat)
Dermal	LD50	630 mg/kg (rat)
Inhalative	LC50/4 h	316 mg/l (rat)

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	LC50/8h	0.9 mg/l (rat)
1760-24-3 N-(3-(trimethoxysilyl)propyl)ethylenediamine		
Oral	LD50	2,295 mg/kg (rat)
	NOEL	≥500 mg/kg (rat) (OECD 422)
	NOAEL	≥500 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine		
Oral	LD50	1,030 mg/kg (rat)
	NOAEL-Werte	>250 mg/kg (rat)
Dermal	LD50	1,840 mg/kg (rabbit)
		>2,000 mg/kg (rat)

· 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.
· 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)		
108-95-2	phenol	3

· NTP (National Toxicology Program)
None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

* **12 Ecological information**

· **Toxicity**

· Aquatic toxicity:	
38294-64-3 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine	
EC50	>1,000 mg/l (BES)
EL50/48h	11.1 mg/l (daphnia magna)
EL50/72h	79.4 mg/l (Pseudokirchneriella subcapitata)
LL50/96h	70.7 mg/l (Oncorhynchus mykiss)
1950616-36-0 formaldehyde polymer with 1,3-benzenedimethanamine and phenol	
EC50	491.3 mg/l (BES)
EC50/48h	29.8 mg/l (daphnia magna)
EC50/72h	20.4 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	25.9 mg/l (Oncorhynchus mykiss)
100-51-6 Benzyl alcohol	
EC50/24h	55-400 mg/l (daphnia magna)

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EC50/96h	640 mg/l (Scenedesmus pluvialis)
EC50	2,100 mg/l (BES) (OECD 209)
	79 mg/l (Scenedesmus quadricauda)
EC10/16h	658 mg/l (pseudomonas putida)
EC50/48h	230 mg/l (daphnia magna) (OECD 202)
EC0	640 mg/l (Scenedesmus quadricauda)
EC50/16h	658 mg/l (pseudomonas putida)
EC50/30min	71.4 mg/l (Photobac. phosphoreum)
	400 mg/l (pseudomonas putida)
IC5/96h	640 mg/l (Scenedesmus quadricauda)
NOEC	310 mg/kg (Pseudokirchneriella subcapitata)
NOEC/21d	51 mg/l (daphnia magna) (OECD211)
EC50/72h	770 mg/l (green alge) (OECD 201)
	770 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	645 mg/l (goo)
	10 mg/l (lepomis macrochirus)
	460 mg/l (Pimephales promelas)
1477-55-0 m-phenylenebis(methylamine)	
EC50/48h	15.2 mg/l (daphnia magna)
EC50/30min	>1,000 mg/l (BES)
NOEC/21d	4.7 mg/l (daphnia magna)
EC50/72h	12 mg/l (Scenedesmus subspicatus)
	32.1 mg/l (selenastrum capricornutum)
LC50/96h	>100 mg/l (Oncorhynchus mykiss)
	87.6 mg/l (Oryzias latipes)
	>100 mg/l (Zebrabärbling)
84852-15-3 4-nonylphenol, branched	
EC50/96h	0.41 mg/l (green alge)
EC50/48h	0.085 mg/l (daphnia magna)
NOEC/21d	0.024 mg/l (daphnia magna)
EC50/72h	0.33 mg/l (Scenedesmus subspicatus)
LC50/96h	0.128 mg/l (Pimephales promelas)
69-72-7 salicylic acid	
EC50	>3,200 mg/l (BES) (OECD 209)
LC50/24h	105-230 mg/l (daphnia magna)
EC50/48h	870 mg/l (daphnia magna) (OECD 202)
EC50/16h	380 mg/l (bacteria)
NOEC/21d	10 mg/l (daphnia magna) (OECD 202 II)
EC50/72h	>100 mg/l (green alge) (OECD 201)
LC50/96h	1,370 mg/l (piscis) (OECD 203)
	1,380 mg/l (pimephales promelas)
108-95-2 phenol	
EC50/24h	21 mg/l (BO)
EC50/96h	61.1 mg/l (green alge)
EC50/48h	3.1 mg/l (daphnia magna)
LC50/96h	8.9 mg/l (Oncorhynchus mykiss)

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1760-24-3 N-(3-(trimethoxysilyl)propyl)ethylenediamine	
EC50	435 mg/l (Klärschlamm: Atmungs-/Vermehrungshemmung)
IC50/72h	8.8 mg/l (green alge) (OECD 201)
EC50/48h	81 mg/l (daphnia magna)
EC50/16h	67 mg/l (pseudomonas putida)
NOEC	3.1 mg/kg (green alge) (OECD 201)
	≥1,000 mg/kg (Eisenia fetida (Regenwürmer)) (OECD 207)
NOEC/21d	>1 mg/l (daphnia magna)
EC50/48h	87.4 mg/l (daphnia magna)
EC50/72h	5 mg/l (green alge)
LC50/96h	597 mg/l (Danio rerio.)
	168 mg/l (pimephales promelas)
2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine	
EC50/24h	44 mg/l (daphnia magna)
LC 0/96h	70 mg/l (piscis)
EC10/18h	1,120 mg/l (pseudomonas putida)
EC50/48h	23 mg/l (daphnia magna) (OECD TG 202)
ErC50/72h	37 mg/l (Scenedesmus subspicatus) (EG 88/302)
NOEC/21d	3 mg/l (daphnia magna)
EC50/72h	37 mg/l (green alge) (EG 88/302)
	50 mg/l (Scenedesmus subspicatus)
LC50/96h	110 mg/l (Brachydanio rerio) (EG 84/449)
	110 mg/l (Leuciscus idus) (EG 84/449)

· **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.
· **Ecotoxical effects:**
· Remark: Harmful to fish
· **Additional ecological information:**
· General notes: Do not allow product to reach ground water, water course or sewage system.
Harmful to aquatic organisms
Water hazard class 2 (Self-assessment): hazardous for water
· **Results of PBT and vPvB assessment**
· PBT: Not applicable.

· vPvB:	
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine

· **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: Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.
· Recommended cleansing agent: Alcohol

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acetone

* **14 Transport information**

· **UN-Number**
· DOT, ADR, IMDG, IATA: UN1760

· **UN proper shipping name**
· DOT: Corrosive liquids, n.o.s. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine, formaldehyde polymer with 1,3-benzenedimethanamine and phenol)
· ADR: 1760 CORROSIVE LIQUID, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine, formaldehyde polymer with 1,3-benzenedimethanamine and phenol), ENVIRONMENTALLY HAZARDOUS
· IMDG: CORROSIVE LIQUID, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine, formaldehyde polymer with 1,3-benzenedimethanamine and phenol), MARINE POLLUTANT
· IATA: CORROSIVE LIQUID, N.O.S. (4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine, formaldehyde polymer with 1,3-benzenedimethanamine and phenol)

· **Transport hazard class(es)**

· DOT

· Class: 8 Corrosive substances
· Label: 8

· ADR

· Class: 8 (C9) Corrosive substances
· Label: 8

· IMDG

· Class: 8 Corrosive substances
· Label: 8

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· IATA

· Class	8 Corrosive substances
· Label	8
· **Packing group**	
· DOT, ADR, IMDG, IATA	II
· **Environmental hazards:**	Product contains environmentally hazardous substances:
· Marine pollutant:	No Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· **Special precautions for user**	Warning: Corrosive substances
· Hazard identification number (Kemler code):	80
· EMS Number:	F-A,S-B
· Segregation groups	Alkalis
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 30 L
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 1760 CORROSIVE LIQUID, N.O.S. (4,4'-ISOPROPYLIDENEDIPHENOL, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORO-2,3-EPOXYPROPANE, REACTION PRODUCTS WITH 3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE, FORMALDEHYDE POLYMER WITH 1,3-BENZENEDIMETHANAMINE AND PHENOL), 8, II, ENVIRONMENTALLY HAZARDOUS

*

15 Regulatory information

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

· Sara

· Section 355 (extremely hazardous substances):

108-95-2	phenol

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· Section 313 (Specific toxic chemical listings):

84852-15-3	4-nonylphenol, branched
108-95-2	phenol

· TSCA (Toxic Substances Control Act):

1950616-36-0	formaldehyde polymer with 1,3-benzenedimethanamine and phenol	ACTIVE
100-51-6	Benzyl alcohol	ACTIVE
1477-55-0	m-phenylenebis(methylamine)	ACTIVE
67762-90-7	Siloxanes and silicones, di-Me, reaction product with silica	ACTIVE
84852-15-3	4-nonylphenol, branched	ACTIVE
69-72-7	salicylic acid	ACTIVE
108-95-2	phenol	ACTIVE
1760-24-3	N-(3-(trimethoxysilyl)propyl)ethylenediamine	ACTIVE
2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	ACTIVE

· Hazardous Air Pollutants

108-95-2	phenol
67-56-1	methanol

· 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)

108-95-2	phenol	D, I
107-15-3	ethylenediamine	D

· TLV (Threshold Limit Value established by ACGIH)

108-95-2	phenol	A4
107-15-3	ethylenediamine	A4

· MAK (German Maximum Workplace Concentration)

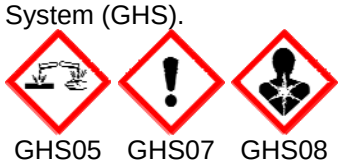
108-95-2	phenol	3B

· NIOSH-Ca (National Institute for Occupational Safety and Health)

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 GHS08

· Signal word Danger

· Hazard-determining components of labeling: 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with 3-aminomethyl-3,5,5-trimethylcyclohexylamine

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Benzyl alcohol
4-nonylphenol, branched
phenol
formaldehyde polymer with 1,3-benzenedimethanamine and phenol
m-phenylenebis(methylamine)
N-(3-(trimethoxysilyl)propyl)ethylenediamine
3-aminomethyl-3,5,5-trimethylcyclohexylamine

· Hazard statements
H302+H332 Harmful if swallowed or if inhaled.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H341 Suspected of causing genetic defects.
H361 Suspected of damaging fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.

· Precautionary statements
P260 Do not breathe vapours.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 If on skin (or hair): 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.
P310 Immediately call a poison center/doctor.
P333+P313 If skin irritation or rash occurs: 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 2 (Self-assessment): hazardous for water.

· VOC USA 177.6 g/l / 1.48 lb/gal

· **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 SDS:** Laboratory

· **Contact:** Elke Hake
Fon ++49 (0)911 64296-59
@mail E.Hake@akemi.de

· Date of preparation / last revision 05/06/2020 / 7

· 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 Organisation
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

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LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2