

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 21.01.2019

Version number 5

Revision: 21.01.2019

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Trade name: **Akepox 2040 Component A**
- Article number: 10611, 10606, 10622, 11651, 11652

1.2 Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

Application of the substance / the mixture

Epoxy resin adhesive

1.3 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

1.4 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.
+44 (171) 635 91 91
National Poison Inform. Centre
Medical Toxicology Unit
Avalonley Road
London SE14 5ER

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008



GHS09 environment

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



GHS07

- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2 H319 Causes serious eye irritation.
- Skin Sens. 1 H317 May cause an allergic skin reaction.

2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008
- Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS07 GHS09

Signal word

Warning

Hazard-determining components of labelling:

reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)
phenol, polymer with formaldehyde, glycidyl ether
1,6-hexanediol diglycidyl ether
N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)

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- Hazard statements
 - H315 Causes skin irritation.
 - H319 Causes serious eye irritation.
 - H317 May cause an allergic skin reaction.
 - H411 Toxic to aquatic life with long lasting effects.
- Precautionary statements
 - P101 If medical advice is needed, have product container or label at hand.
 - P102 Keep out of reach of children.
 - P103 Read label before use.
 - P261 Avoid breathing vapours.
 - P273 Avoid release to the environment.
 - 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.
- Additional information: Contains epoxy constituents. May produce an allergic reaction.
- **2.3 Other hazards**
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

SECTION 3: Composition/information on ingredients**3.2 Chemical characterisation: Mixtures**

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

- Dangerous components:

CAS: 25068-38-6 NLP: 500-033-5 Index number: 603-074-00-8 Reg.nr.: 01-2119456619-26-0000	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700) ⚠ Aquatic Chronic 2, H411 ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	12.5-25%
CAS: 28064-14-4 EC number: 608-164-0 Reg.nr.: 01-2119454392-40-xxxx	phenol, polymer with formaldehyde, glycidyl ether ⚠ Aquatic Chronic 2, H411 ⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317	<12.5%
CAS: 16096-31-4 EINECS: 240-260-4 Reg.nr.: 01-2119463471-41	1,6-hexanediol diglycidyl ether ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317 Aquatic Chronic 3, H412	<10%
CAS: 123-26-2 EINECS: 204-613-6 Reg.nr.: 01-2120783565-42-xxxx	N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide) ⚠ Skin Sens. 1B, H317 Aquatic Chronic 3, H412	<1%

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

SECTION 4: First aid measures**4.1 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.

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- 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.
- **4.2 Most important symptoms and effects, both acute and delayed**
 - Breathing difficulty
 - Headache
 - Dizziness
 - Nausea
 - Allergic reactions
- 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.
- Hazards 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.
- **4.3 Indication of any immediate medical attention and special treatment needed** If swallowed, gastric irrigation with added, activated carbon.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 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)
Under certain fire conditions, traces of other toxic gases cannot be excluded.
- **5.3 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.

SECTION 6: Accidental release measures

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

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- **6.2 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.
- **6.3 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).
Ensure adequate ventilation.
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 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 fire - and explosion protection:** No special measures required.
- **7.2 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 container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 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.

· DNELs

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

Oral	DNEL (Kurzzeit-akut)	0.75 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	0.75 mg/kg bw/day (BEV)
Dermal	DNEL (Kurzzeit-akut)	8.33 mg/kg bw/day (ARB)
		3.571 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	8.33 mg/kg bw/day (ARB)
		3.571 mg/kg bw/day (BEV)

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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>).

**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 \leq 6, 480 min

The exact break through 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
Dermatril (KCL, Art_No. 740, 741, 742)
Camatril (KCL, 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 material gloves

- Eye protection:

**Tightly sealed goggles**

- Body protection:

Protective work clothing

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

Form:

Pasty

Colour:

Light grey

Odour:

Characteristic

pH-value:

Not applicable

Change in condition

Melting point/freezing point:

Undetermined.

Initial boiling point and boiling range: > 200 °C

Flash point:

Not applicable.

Ignition temperature:

>300 °C

Decomposition temperature:

> 200 °C °C

Auto-ignition temperature:

Product is not selfigniting.

Explosive properties:

Product does not present an explosion hazard.

Vapour pressure at 20 °C:

2 hPa

Density at 20 °C:

1.71 g/cm³

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:

56.6 %

9.2 Other information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No further relevant information available.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

10.3 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.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials:

No further relevant information available.

10.6 Hazardous decomposition products:

Irritant gases/vapours

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SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Oral	LD50	16,970 mg/kg
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25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700)

Oral	LD50	20,000 mg/kg (mouse)
		19,800 mg/kg (rabbit)
		11,400 mg/kg (rat)
	NOEL	540 mg/kg (rat) (OECD 416)
Dermal	LD50	20,000 mg/kg (rabbit)

28064-14-4 phenol, polymer with formaldehyde, glycidyl ether

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 (rat)
Inhalative	LC50/4 h	>100 mg/l (mouse)
	LC50/48h	23.1 mg/l (green alge)

Primary irritant effect:

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Based on available data, the classification criteria are not met.

Reproductive toxicity

Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

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	3.6 mg/l (Leuciscus idus)
	220 mg/l (Scenedesmus subspicatus)
IC50	>100 mg/l (bacteria)
EC50/48h	2.7 mg/l (daphnia magna) (OECD 202)
NOEC	0.3 mg/kg (daphnia magna) (OECD 211)
EC50/72h	9.4 mg/l (selenastrum capricornutum)

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LC50/96h	1.3 mg/l (piscis) 1.5 mg/l (Oncorhynchus mykiss) (OECD 203) 1.5-7.7 mg/l (rainbow trout)
LC50/72h	>11 mg/l (green alge)
28064-14-4 phenol, polymer with formaldehyde, glycidyl ether	
EC50/96h	3.6 mg/l (Leuciscus idus) 220 mg/l (Scenedesmus subspicatus)
EC50	>1-<10 mg/l (Selenastrum capricornutum)
EC50/48h	2.55 mg/l (daphnia magna)
LC50/96h	2.54 mg/l (piscis)
16096-31-4 1.6-hexanediol diglycidyl ether	
EC50/48h	67 mg/l (daphnia magna)
LC50/96h	1.1 mg/l (goo) 17-31 mg/l (Oncorhynchus mykiss)
LC50/72h	30 mg/l (Oncorhynchus mykiss)

• **12.2 Persistence and degradability**

No further relevant information available.

• **12.3 Bioaccumulative potential**

No further relevant information available.

• **12.4 Mobility in soil**

No further relevant information available.

• Ecotoxicological effects:

• Remark:

Toxic for fish

• Additional ecological information:

• General notes:

Do not allow product to reach ground water, water course or sewage system.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

• **12.5 Results of PBT and vPvB assessment**

• PBT:

Not applicable.

• vPvB:

Not applicable.

• **12.6 Other adverse effects**

No further relevant information available.

* **SECTION 13: Disposal considerations**

• **13.1 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 hazardous substances

• Uncleaned packaging:

• Recommendation:

Empty contaminated packaging thoroughly. They may be recycled after thorough and proper cleaning.

• Recommended cleansing agents:

Alcohol
acetone

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SECTION 14: Transport information

<ul style="list-style-type: none"> 14.1 UN-Number ADR, IMDG, IATA 	UN3082
<ul style="list-style-type: none"> 14.2 UN proper shipping name ADR IMDG IATA 	<p>3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), phenol, polymer with formaldehyde, glycidyl ether)</p> <p>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), phenol, polymer with formaldehyde, glycidyl ether), MARINE POLLUTANT</p> <p>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight = 700), phenol, polymer with formaldehyde, glycidyl ether)</p>
<ul style="list-style-type: none"> 14.3 Transport hazard class(es) ADR <div> </div> <ul style="list-style-type: none"> Class Label 	<p>9 (M6) Miscellaneous dangerous substances and articles.</p> <p>9</p>
<ul style="list-style-type: none"> IMDG, IATA <div> </div> <ul style="list-style-type: none"> Class Label 	<p>9 Miscellaneous dangerous substances and articles.</p> <p>9</p>
<ul style="list-style-type: none"> 14.4 Packing group ADR, IMDG, IATA 	III
<ul style="list-style-type: none"> 14.5 Environmental hazards: Marine pollutant: Special marking (ADR): Special marking (IATA): 	<p>Product contains environmentally hazardous substances:</p> <p>Yes</p> <p>Symbol (fish and tree)</p> <p>Symbol (fish and tree)</p> <p>Symbol (fish and tree)</p>
<ul style="list-style-type: none"> 14.6 Special precautions for user Danger code (Kemler): Stowage Category 	<p>Warning: Miscellaneous dangerous substances and articles.</p> <p>90</p> <p>A</p>
<ul style="list-style-type: none"> 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> Transport/Additional information: 	
<ul style="list-style-type: none"> ADR Limited quantities (LQ) Excepted quantities (EQ) 	<p>5L</p> <p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 1000 ml</p>

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• <u>Transport category</u>	3
• <u>IMDG</u>	5L
• <u>Limited quantities (LQ)</u>	Code: E1
• <u>Excepted quantities (EQ)</u>	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
• <u>UN "Model Regulation":</u>	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (REACTION PRODUCT: BISPHENOL-A-(EPICHLORHYDRIN) EPOXY RESIN (NUMBER AVERAGE MOLECULAR WEIGHT = 700), PHENOL, POLYMER WITH FORMALDEHYDE, GLYCIDYL ETHER), 9, III

SECTION 15: Regulatory information

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

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Seveso category E2 Hazardous to the Aquatic Environment
- Qualifying quantity (tonnes) for the application of lower-tier requirements 200 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- 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 0.0 g/l
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 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 H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.
- Recommended restriction of use refer to Technical Data Sheet (TDS)
- Department issuing SDS: Laboratory
- Contact: Dieter Zimmermann
Elke Hake
Fon ++49 (0)911 64296-59
@mail E.Hake@akemi.de
- 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)

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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
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1B: Skin sensitisation – Category 1B
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· * Data compared to the previous
version altered.

Adaptation in accordance with REACH directive 1907/2006/EC

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