

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 28.08.2018

Version number 5

Revision: 28.08.2018

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

1.1 Product identifier

- Trade name: **AkepoX 5010 Component B**
- Article number: 10685, 10686, 10684, 10687, 22913, 10671, 10673, 11460B-11470B

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

- Application of the substance / the mixture: No further relevant information available.
- Epoxy resin adhesive
- Hardening agent/ Curing agent

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



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

- Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
- Storage: Store locked up.
Store in a well-ventilated place. Keep container tightly closed.

2.2 Label elements

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

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

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· Hazard pictograms

GHS05 GHS07

· Signal word

Danger

· Hazard-determining components of labelling:2,2,4-trimethylhexan-1,6-diamine
1,3-Cyclohexanedimethanamine· Hazard statementsH314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.· Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P260 Do not breathe vapours.

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 [or 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.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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: 100-51-6 EINECS: 202-859-9 Index number: 603-057-00-5 Reg.nr.: 01-2119492630-38-0000	Benzyl alcohol ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	12.5-25%
CAS: 25513-64-8 EINECS: 247-063-2 Reg.nr.: 01-2119560598-25-xxxx	2,2,4-trimethylhexan-1,6-diamine ⚠ Skin Corr. 1A, H314; Eye Dam. 1, H318 ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	<10%
CAS: 2579-20-6 EINECS: 219-941-5 Reg.nr.: 01-2119543741-41-xxxx	1,3-Cyclohexanedimethanamine ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312 Aquatic Chronic 3, H412	<10%

· 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.

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- After inhalation: 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. Supply fresh air and to be sure call for a doctor.
- After skin contact: In case of unconsciousness place patient stably in side position for transportation. If skin irritation continues, consult a doctor. Immediately wash with water and soap and rinse thoroughly. Immediately rinse with water.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: Call for a doctor immediately. Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed**
 - Headache
 - Dizziness
 - Nausea
 - Breathing difficulty
 - Coughing
- Information for doctor: Amines: Inhalation, swallowing or dermal contact may cause health damages. Cause burns, harm respiratory tract, eyes, skin, and digestion system in worst case up to complete destruction. Intermediate interferences such as headache, nausea, cough, dyspnea may occur. May cause allergies. Sensitized users may react towards very low amine concentrations and should avoid any further contact with this group of chemicals.
- Hazards Danger of impaired breathing.
- **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: Use fire extinguishing methods suitable to surrounding conditions.
- **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)
Nitrogen oxides (NOx)
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.
 - Wear protective equipment. Keep unprotected persons away.

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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).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
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 oxidising agents.
Store away from foodstuffs.
- **Further information about storage conditions:** Store receptacle in a well ventilated area.
Keep container tightly sealed.
- **Storage class:** 8
- **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****100-51-6 Benzyl alcohol**

Oral	DNEL (Kurzzeit-akut)	25 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	5 mg/kg bw/day (BEV)
Dermal	DNEL (Kurzzeit-akut)	47 mg/kg bw/day (ARB)
		28.5 mg/kg bw/day (BEV)

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Inhalative	DNEL (Langzeit-wiederholt)	9.5 mg/kg bw/day (ARB) 5.7 mg/kg bw/day (BEV)
	DNEL (Kurzzeit-akut)	450 mg/m ³ Air (ARB) 40.55 mg/m ³ Air (BEV)
	DNEL (Langzeit-wiederholt)	22 mg/m ³ Air (ARB)
		8.11 mg/m ³ Air (BEV)

· **PNECs****100-51-6 Benzyl alcohol**

PNEC (wässrig)	39 mg/l (KA)
	0.1 mg/l (MW)
	1 mg/l (SW)
	2.3 mg/l (WAS)
PNEC (fest)	0.456 mg/kg Trockengew (BO)
	0.527 mg/kg Trockengew (MWS)
	5.27 mg/kg Trockengew (SWS)

25513-64-8 2,2,4-trimethylhexan-1,6-diamine

PNEC (wässrig)	0.00295 mg/l (MW)
	0.0295 mg/l (SW)

· Additional information:

The lists valid during the making were used as basis.

· **8.2 Exposure controls**· Personal protective equipment:· General protective and hygienic measures:

Use skin protection cream for skin protection.
Clean skin thoroughly immediately after handling the product.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

· Respiratory protection:

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.

**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
Skin protection agent recommendation for preventive skin shelter without use of protective gloves:
STOKO EMULSION (<http://www.stoko.com>)
Skin protection recommendation for skin cleaning after product handling:
Kresto Classic (<http://debstoko.com>)
Skin protection agent recommendation for skin aftercare:

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STOKO VITAN (<http://www.stoko.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 analyses of the company KCL GmbH in compliance with EN374.

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

· Material of gloves

Butyl rubber, BR
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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· For the permanent contact gloves made of the following materials are suitable:

Butyl rubber, BR
Butoject (KCL, Art_No. 897, 898)
Nitrile rubber, NBR
Dermatril (Art_No. 740, 741, 742)

· As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, NBR
Dermatril (KCL, Art_No. 740, 741, 742)

· Not suitable are gloves made of the following materials:

Leather gloves
Strong material gloves

· Eye protection:



Tightly sealed goggles

· Body protection:

Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· General Information

· Appearance:

Form: Pasty

Colour: Colourless

· Odour: Characteristic

· pH-value: Not applicable

· Change in condition

Melting point/freezing point: Undetermined.

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Initial boiling point and boiling range: 205.4 °C	
· Flash point:	101 °C
· Ignition temperature:	435 °C
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	1.3 Vol %
Upper:	13 Vol %
· Vapour pressure at 20 °C:	0.1 hPa
· Density at 20 °C:	1.07 g/cm ³
· Solubility in / Miscibility with water:	Partly soluble.
· Viscosity:	
Dynamic at 20 °C:	8,000 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	23.3 %
· 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** Strong exothermic reaction with acids.
Reacts with strong oxidising agents.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Corrosive gases/vapours

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	2,430 mg/kg
Dermal	LD50	6,249 mg/kg (rabbit)
Inhalative	LC50/4 h	47.3 mg/l (rat)

100-51-6 Benzyl alcohol

Oral	LD50	1,040 mg/kg (mouse)
		1,040 mg/kg (rabbit)
		1,620 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)
Inhalative	LC50/8h	1,000 ppm (rat)

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	LC50/4 h	11 mg/l (rat)
	LC50/48h	360 mg/l (daphnia magna)
		645 mg/l (goo)
25513-64-8 2,2,4-trimethylhexan-1,6-diamine		
Oral	LD50	910 mg/kg (rat)
	LC50/48h	174 mg/l (Leuciscus idus)
2579-20-6 1,3-Cyclohexanedimethanamine		
Oral	LD50	700 mg/kg (rat)
Dermal	LD50	1,700 mg/kg (rabbit)

- Primary irritant effect:
- Skin corrosion/irritation Causes severe skin burns and eye damage.
- Serious eye damage/irritation Causes serious eye damage.
- 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:

100-51-6 Benzyl alcohol

EC50/24h	55-400 mg/l (daphnia magna)
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 (Iepomis macrochirus)
	460 mg/l (Pimephales promelas)
25513-64-8 2,2,4-trimethylhexan-1,6-diamine	
EC50/24h	31.5 mg/l (daphnia magna)
EC50	89 mg/l (pseudomonas putida)
IC50	89 mg/l (pseudomonas putida)

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ErC50/72h	37.1-43.5 mg/l (Pseudokirchneriella subcapitata)
NOELR/72h	16 mg/l (Pseudokirchneriella subcapitata)
NOELR/21d	1.02 mg/l (daphnia magna)
EC50/72h	29.5 mg/l (Scenedesmus subspicatus)

2579-20-6 1,3-Cyclohexanedimethanamine

EC50	>1,000 mg/l (BES) 90 mg/l (pseudomonas putida)
EC50/48h	33.1 mg/l (daphnia magna)
EC50/72h	29.7 mg/l (selenastrum capricornutum)
LC50/96h	130 mg/l (Leuciscus idus)

- **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.

- Additional ecological information:

- General notes:

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Self-assessment): slightly 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 packagings thoroughly. They may be recycled after thorough and proper cleaning.

- Recommended cleansing agents:

Alcohol
acetone

SECTION 14: Transport information

- **14.1 UN-Number**

- ADR, IMDG, IATA

UN1719

- **14.2 UN proper shipping name**

- ADR

1719 CAUSTIC ALKALI LIQUID, N.O.S. (2,2,4-trimethylhexan-1,6-diamine, 1,3-Cyclohexanedimethanamine)

- IMDG, IATA

CAUSTIC ALKALI LIQUID, N.O.S. (2,2,4-trimethylhexan-1,6-diamine, 1,3-Cyclohexanedimethanamine)

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· 14.3 Transport hazard class(es)

· ADR



· Class 8 (C5) Corrosive substances.
 · Label 8

· IMDG, IATA



· Class 8 Corrosive substances.
 · Label 8

· 14.4 Packing group

· ADR, IMDG, IATA II

· 14.5 Environmental hazards:

· Marine pollutant: No

· 14.6 Special precautions for user

Warning: Corrosive substances.
 · Danger code (Kemler): 80
 · EMS Number: F-A,S-B
 · Segregation groups Alkalis
 · Stowage Category A
 · Segregation Code SG22 Stow "away from" ammonium salts
 SG35 Stow "separated from" acids.

· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

· Transport/Additional information:

· ADR

· 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
 · Transport category 2
 · Tunnel restriction code E

· 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 1719 CAUSTIC ALKALI LIQUID, N.O.S. (2,2,4-TRIMETHYLHEXAN-1,6-DIAMINE, 1,3-CYCLOHEXANEDIMETHANAMINE), 8, II

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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.
- 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 1 (Self-assessment): slightly hazardous for water.
- VOC EU 249.7 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 H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
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
- 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
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
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
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