


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

- **1.1 Product identifier**
- Trade name:** PEROXAN BP-40 LS
- **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**
Reaction initiator
For industrial use
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** PERGAN GmbH
Hilfsstoffe für industrielle Prozesse
Schlavenhorst 71
D-46395 Bocholt
Tel: +49 2871 9902-0
Fax: +49 2871 9902-50
- **Further information obtainable from:**
Environment protection / Security of labour
Competent person:
* Sales Manager Germany: Mr. Ansgar Pappenheim, e-mail: a.pappenheim@pergan.com
* Export Sales Manager: Mr. Dr. Thomas Philipps, e-mail: dr.philipps@pergan.com
* Environment protection / : Mr. Christoph Wilting, e-mail: c.wilting@pergan.com
Security of labour
- **1.4 Emergency telephone number:** - Tel: +49 2871 9902-0

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Org. Perox. E H242 Heating may cause a fire.
Eye Irrit. 2 H319 Causes serious eye irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT RE 2 H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008** The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**

 GHS02 GHS07 GHS08 GHS09
- **Signal word** Warning
- **Hazard-determining components of labelling:** dibenzoyl peroxide
ethanediol
- **Hazard statements**
H242 Heating may cause a fire.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
H410 Very toxic to aquatic life with long lasting effects.
- **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220 Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy metal compounds and amines).
P234 Keep only in original container.
P264 Wash thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P410 Protect from sunlight.
P411+P235 Store at temperatures not exceeding +25°C. Keep cool.
P420 Do not mix with peroxide-accelerators or reducing agents.
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.

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· vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

· **Dangerous components:**

CAS: 94-36-0 EINECS: 202-327-6 Index number: 617-008-00-0 Reg-No.: 01-2119511472-50	dibenzoyl peroxide Org. Perox. B, H241; Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10); Eye Irrit. 2, H319; Skin Sens. 1, H317	30-40%
CAS: 107-21-1 EINECS: 203-473-3 Index number: 603-027-00-1 Reg-No.: 01-2119456816-28	ethanediol STOT RE 2, H373; Acute Tox. 4, H302	25-30%
CAS: 670241-72-2 ELINCS: 447-010-5 Reg-No.: 01-0000018876-55	Nonylbenzoate, branched and linear Aquatic Chronic 2, H411	10-20%

· **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:** Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.



Take care of personal protection for the first aider.

· **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.
Take affected persons into fresh air and keep quiet.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.
Immediately remove contaminated clothing.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:**

Call for a doctor immediately.

· **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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**

Under certain fire conditions, traces of other toxic gases cannot be excluded.
Hydrocarbons, carbon dioxide and -monoxid.

· **5.3 Advice for firefighters**

· **Protective equipment:**

Do not inhale explosion gases or combustion gases.

· **Additional information**

Cool endangered receptacles with water spray.
Self-protection first!

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Keep away from ignition sources.
In case of further temperature should be cooled with waterspray from a safe distance.
Wear breathing apparatus with filter A during decomposition of materials.
Wear protective equipment. Keep unprotected persons away.

· **6.2 Environmental precautions:**

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



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




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- **6.3 Methods and material for containment and cleaning up:** Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Large quantities should be diluted with suitable desensitisation agent to a concentration below 10 % before disposal.
Soak up with absorbant material (e. g. Vermiculit) and dispose of in accordance with government regulations.
- **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.
In case of large spillage the environmental authority should be informed.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
 - Keep away from heat and direct sunlight.
 - Open and handle receptacle with care.
 - Prevent formation of aerosols.
 - Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.
 - Do not refill residue into storage receptacles.
 - Restrict the quantity stored at the work place.
 - Before break and at the end of work hands should be thoroughly washed.
 - Only use tools made of suitable materials (e. g. polyethylene or stainless steel).
 - Keep away from dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
 - Oxidizing because of releasing oxygene.
 - While using do not eat, drink or smoke.
 - Do not generate flames or sparks.
 - Keep product and emptied container away from heat and sources of ignition.
 - Avoid shock and friction.
 - Take precautionary measures against static discharges.
- **Information about fire - and explosion protection:**
 -  Do not smoke.
 - Protect from heat.
 - Protect against electrostatic charges.
 - Prevent impact and friction.
 - Use explosion-proof apparatus / fittings and spark-proof tools.
 - Fumes can combine with air to form an explosive mixture.
 -  Wear shoes with conductive soles.
 - Formation of flammable or explosive gas/air-mixtures is possible.
 -  Avoid open flames, sparks, direct sunlight and other sources of ignition.
 - Keep ignition sources away - Do not smoke.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:** Pay attention to the special requirements of your local authorities for storing dangerous goods.
- **Requirements to be met by storerooms and receptacles:**
 - Store only in the original receptacle.
 - Prevent any seepage into the ground.
 - Use only receptacles specifically permitted for this substance/product.
- **Information about storage in one common storage facility:**
 - Do not store or park organic peroxide together with heavy metal compounds and amines.
 - Store away from foodstuffs, drinks and feeding stuffs.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Protect from heat and direct sunlight.
 - Protect from contamination.
- **Recommended storage temperature (To maintain quality):** +5 +30 °C
- **7.3 Specific end use(s)** No further relevant information available.

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* 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:**

94-36-0 dibenzoyl peroxide

WEL (Great Britain) Long-term value: 5 mg/m³

107-21-1 ethanediol

WEL (Great Britain) Short-term value: 104** mg/m³, 40** ppm
Long-term value: 10* 52** mg/m³, 20** ppm
Sk *particulate **vapour

IOELV (EU) Short-term value: 104 mg/m³, 40 ppm
Long-term value: 52 mg/m³, 20 ppm
Skin

· DNELs

94-36-0 dibenzoyl peroxide

Oral	DNEL Longterm System	2 mg/kg bw/day (General population)
Dermal	DNEL Longterm System	13.3 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	39 mg/m ³ (Worker)

107-21-1 ethanediol

Dermal	DNEL Longterm System	106 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm Local	35 mg/m ³ (Worker)

670241-72-2 Nonylbenzoate, branched and linear

Dermal	DNEL Longterm System	7.77 mg/kg bw/day (Worker)
Inhalative	DNEL Longterm System	59.3 mg/m ³ (Worker)

· PNECs

94-36-0 dibenzoyl peroxide

PNEC Marinewater sed	0.001 mg/kg sed dw
PNEC Freshwater	0.00002 mg/l (AF 50)
PNEC Freshwater sed	0.013 mg/kg sed dw
PNEC STP	0.35 mg/l
PNEC Marinewater	0.000002 mg/l (AF 500)

107-21-1 ethanediol

PNEC Marinewater sed	3.7 mg/kg sed dw (-)
PNEC Freshwater	10 mg/l (AF 10)
PNEC Freshwater sed	37 mg/kg sed dw (-)
PNEC STP	199.5 mg/l (AF 10)
PNEC Marinewater	1 mg/l (AF 100)

670241-72-2 Nonylbenzoate, branched and linear

PNEC Freshwater	0.004 mg/l (AF 10)
PNEC Freshwater sed	0 mg/kg sed dw (-)
PNEC Soil	0.32 mg/kg soil dw (AF 100)
PNEC STP	10 mg/l (AF 100)
PNEC Marinewater	0 mg/l (AF 100)

· **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid close or long term contact with the skin.
Avoid contact with the eyes and skin.
Do not eat, drink, smoke or sniff while working.
Use skin protection cream for skin protection.
Be sure to clean skin thoroughly after work and before breaks.

· **Respiratory protection:**

Not necessary if room is well-ventilated.

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Use suitable respiratory device when it exceed exposure limit and when insufficiently ventilated.



Filter A2

· **Protection of hands:**

Only use chemical-protective gloves with CE-labelling of category III.



Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Protective gloves

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.

Butyl rubber, BR
Fluorocarbon rubber (Viton)
Nitrile rubber, NBR
Neoprene

· **Penetration time of glove material**

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **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:** Suspension
- **Colour:** White
- **Odour:** Characteristic
- **Odour threshold:** Not determined.

· **pH-value:** Not determined.

· **Change in condition**

- **Melting point/freezing point:** Not applicable.
- **Initial boiling point and boiling range:** Not applicable.

· **Flash point:** > SADT

· **Flammability (solid, gas):** Not applicable.

· **Decomposition temperature:** > +60 °C (SADT)

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product does not present an explosion hazard.

· **Explosion limits:**

- **Lower:** Not determined.
- **Upper:** Not determined.

· **Vapour pressure:** Not determined.

- **Density:** Not determined.
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **water:** Undetermined.

· **Partition coefficient: n-octanol/water:** not determined

· **Viscosity:**

- **Dynamic at 20 °C:** 500 - 1500 mPas
- **Kinematic:** Not determined.

· **9.2 Other information** No further relevant information available.

· **Active oxygen** 2.6 - 2.7 %

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** SADT (Self Accelerating Decomposition Temperature) is the lowest temperature at which self accelerating decomposition may occur with substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by decomposition at and above the temperature. Contact with incompatible substances can cause decomposition at or below the SADT.
No decomposition if used and stored according to specifications.
To avoid thermal decomposition do not overheat.
- **10.3 Possibility of hazardous reactions** Self-accelerating decomposition at SADT.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** Rapid decomposition by dirt, rust, chemicals in particular concentrated acids, alkalis and accelerators (e. g. heavy-metal compounds and amines).
- **10.6 Hazardous decomposition products:** Hydrocarbons, carbon dioxide and -monoxide.
No hazardous decomposition products if used and stored according to specifications.
- **Additional information:** Emergency procedures will vary depending on conditions. The customer should have an emergency response plan in place.

* 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:**

94-36-0 dibenzoyl peroxide

Oral	LD50	>5,000 mg/kg (rattus)
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107-21-1 ethanediol

Oral	LD50	4,000 mg/kg (rattus)
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Dermal	LD50	~10,600 mg/kg (cuniculus)
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670241-72-2 Nonylbenzoate, branched and linear

Oral	LD50	>2,500 mg/kg (rattus)
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Dermal	LD50	>2,000 mg/kg (rattus)
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· **Primary irritant effect:**

- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

- **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** May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.

- **Aspiration hazard** Based on available data, the classification criteria are not met.

* SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

94-36-0 dibenzoyl peroxide

EC50 / 72h	0.0711 mg/l (pseudokirchneriella subcapitata)
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LC50 / 96h	0.0602 mg/l (oncorhynchus mykiss)
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EC50 / 48h	110 mg/l (daphnia magna)
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107-21-1 ethanediol

LC50 / 96h	18,500 mg/l (oncorhynchus mykiss)
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EC50 / 48h	>10,000 mg/l (daphnia magna)
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EC50 / 96h	6,500-7,500 mg/l (pseudokirchneriella subcapitata)
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NOEL / 48h	10 mg/l
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670241-72-2 Nonylbenzoate, branched and linear	
LC50 / 96h	1.23 mg/l (cyprinus carpio)
EC50 / 48h	2.2 mg/l (daphnia magna)
· 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:	Very toxic for fish
· Additional ecological information:	
· General notes:	Also poisonous for fish and plankton in water bodies. Very toxic for aquatic organisms Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· 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**

	After diluting with a suitable desensitisation agent to 10 %, the solution must be supplied to a special treatment (e. g. thermal utilization) under observance of all official regulations.
	Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste disposal key:** Please contact your hazardous waste disposers to assign the right EWC-(European waste catalog)-number.
- **Uncleaned packaging:**
- **Recommendation:** This material and its container must be disposed of as hazardous waste.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN3107
· 14.2 UN proper shipping name · ADR · IMDG · IATA	UN3107 ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE), ENVIRONMENTALLY HAZARDOUS ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE), MARINE POLLUTANT ORGANIC PEROXIDE TYPE E, LIQUID (DIBENZOYL PEROXIDE)
· 14.3 Transport hazard class(es) · ADR	
· Class · Label	5.2 (P1) Organic peroxides. 5.2
· IMDG	
· Class · Label	5.2 Organic peroxides. 5.2
· IATA	
· Class	5.2 Organic peroxides.

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Trade name: **PEROXAN BP-40 LS**

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· Label	5.2
· 14.4 Packing group · ADR, IMDG, IATA	Void
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: DIBENZOYL PEROXIDE
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Organic peroxides.
· Danger code (Kemler):	-
· Stowage Category	D
· Stowage Code	SW1 Protected from sources of heat.
· Segregation Code	SG35 Stow "separated from" acids. SG36 Stow "separated from" alkalis. SG72 See 7.2.6.3.2.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	125 ml
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· Transport category	2
· Tunnel restriction code	D
· RID / GGVSEB:	like ADR
· IMDG	
· Limited quantities (LQ)	125 ml
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Directive 2012/18/EU
- Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- National regulations:
- Other regulations, limitations and prohibitive regulations
- Please note: Take care of the respective local regulations.

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
 - H241 Heating may cause a fire or explosion.
 - H302 Harmful if swallowed.
 - H317 May cause an allergic skin reaction.
 - H319 Causes serious eye irritation.
 - H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
 - H400 Very toxic to aquatic life.
 - H410 Very toxic to aquatic life with long lasting effects.
 - H411 Toxic to aquatic life with long lasting effects.
- Department issuing SDS: Environment protection / Security of labour
- Contact: Tel: +49 2871 9902-0
E-mail: mail@pergan.com
- 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
Org. Perox. B: Organic peroxides – Type B
Org. Perox. E: Organic peroxides – Type E/F
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· * Data compared to the
previous version altered.