

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.03.2015

version no: 2

Revision: 11.03.2015

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

1.1 Product identifier

Trade name: **EUKOBROM**

Article number: 100294

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 Black and white developer for photographic use

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

TETENAL Europe GmbH

Schützenwall 31-35

D-22844 Norderstedt / Germany

Phone: ++49 (0) 40 521 45-0; Fax: +49 (0) 40-52145-296

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2 Meridian West, Meridian Business Park, Leicester LE19 1WX

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Further information obtainable from: Department environment and safety. E-Mail: info@tetenal.com

1.4 Emergency telephone number: Poison Information Centre Berlin (Germany): +49 (0) 30 - 30686 790

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 2 H351 Suspected of causing cancer.



GHS05

Eye Dam. 1 H318 Causes serious eye damage.



GHS09

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

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

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



Xn; Harmful

R40-68: Limited evidence of a carcinogenic effect. Possible risk of irreversible effects.

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Xi; Sensitising

R43: May cause sensitisation by skin contact.



N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Classification system:

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

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



GHS05



GHS07



GHS08



GHS09

Signal word Danger

Hazard-determining components of labelling:

hydroquinone

Hazard statements

H315 Causes skin irritation.

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H351 Suspected of causing cancer.

H400 Very toxic to aquatic life.

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.

P264 Wash thoroughly after handling.

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.

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 and with nonhazardous additions.

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. Dangerous components:

CAS: 123-31-9 EINECS: 204-617-8 Index number: 604-005-00-4 Reg.nr.: 01-2119524016-51	hydroquinone ☒ Xn R22-40-68; ☒ Xi R41; ☒ Xi R43; ☒ N R50 Carc. Cat. 3, Muta. Cat. 3 ☒ Muta. 2, H341; Carc. 2, H351; ☒ Eye Dam. 1, H318; ☒ Aquatic Acute 1, H400 (M=10); ☒ Acute Tox. 4, H302; Skin Sens. 1, H317	1-5%
CAS: 584-08-7 EINECS: 209-529-3 Reg.nr.: 01-2119532646-36	potassium carbonate ☒ Xi R36/38 ☒ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1-5%
CAS: 1330-43-4 EINECS: 215-540-4 Index number: 005-011-00-4	disodium tetraborate, anhydrous ☒ T Repr. Cat. 2 R60-61 ☒ Repr. 1B, H360FD	1-5%
CAS: 1310-73-2 EINECS: 215-185-5 Index number: 011-002-00-6 Reg.nr.: 01-2119457892-27	sodium hydroxide (caustic soda) ☒ C R35 ☒ Met. Corr.1, H290; Skin Corr. 1A, H314	<2%
CAS: 67-43-6 EINECS: 200-652-8 Reg.nr.: 01-2119497281-34	Diethylenetriamine pentaacetic acid (DTPA)/ N-carboxymethyliminobis(ethylenenitrilo)tetra(acetic acid) ☒ Xn R20-63; ☒ Xi R36 ☒ Repr. 2, H361; ☒ Acute Tox. 4, H332; Eye Irrit. 2, H319	1-5%
CAS: 92-43-3 EINECS: 202-155-1 Index number: 606-022-00-2	1-Phenyl-3-pyrazolidone ☒ Xn R22; ☒ N R51/53 ☒ Aquatic Chronic 2, H411; ☒ Acute Tox. 4, H302	<1%

. Not hazardous components:

CAS: 10117-38-1 EINECS: 233-321-1 Reg.nr.: 01-2119537319-34	potassium sulphite	10-<25%
CAS: 7732-18-5 EINECS: 231-791-2	water	50-90%

. SVHC

1330-43-4	disodium tetraborate, anhydrous
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. Additional information: For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

. 4.1 Description of first aid measures
. General information: Immediately remove any clothing/shoes soiled by the product.

. After inhalation: Supply fresh air and to be sure call for a doctor.

. After skin contact: Immediately wash with water and soap and rinse thoroughly.

. After eye contact: Rinse opened eye for several (15 min) under running water.

. After swallowing:

Rinse out mouth and then drink plenty of water.

If symptoms persist consult doctor.

. 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.

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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** No further relevant information available.
- . **5.3 Advice for firefighters**
- . **Protective equipment:** Do not inhale explosion gases or combustion gases.

SECTION 6: Accidental release measures

- . **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- . **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- . **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- . **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:** No special requirements.
- . **Information about storage in one common storage facility:** Do not store together with acids.
- . **Further information about storage conditions:**
Protect from heat and direct sunlight.
Store under lock and key and out of the reach of children.
Recommended storage temperature: 15-25 °C
Store under lock and key and with access restricted to technical experts or their assistants only.
Protect from exposure to the light.
- . **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:
123-31-9 hydroquinone (3-5%)
WEL (Great Britain) Long-term value: 0.5 mg/m ³

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PEL (USA)	Long-term value: 2 mg/m ³
REL (USA)	Short-term value: C 2* mg/m ³ *15-min
TLV (USA)	Long-term value: 1 mg/m ³ (SEN) NIC-DSEN

1330-43-4 disodium tetraborate, anhydrous (1- <3%)

WEL (Great Britain)	Long-term value: 1 mg/m ³
REL (USA)	Long-term value: 1 mg/m ³ anhydrous
TLV (USA)	Short-term value: 6* mg/m ³ Long-term value: 2* mg/m ³ *as inhalable fraction

1310-73-2 sodium hydroxide (caustic soda) (1- <2%)

WEL (Great Britain)	Short-term value: 2 mg/m ³
PEL (USA)	Long-term value: 2 mg/m ³
REL (USA)	Short-term value: C 2 mg/m ³
TLV (USA)	Short-term value: C 2 mg/m ³

. DNELs
123-31-9 hydroquinone

Dermal	Long-term - systemic - effects, worker	128 mg/kg bw/day (Worker (Arbeiter))
	Long-term - systemic effects, general population	64 mg/kg bw/day (Worker (Arbeiter))
Inhalative	Long-term - local - effects, worker	1 mg/m ³ (Worker (Arbeiter))
	Long-term - local effects, general population	0.5 mg/m ³ (Worker (Arbeiter))
	Long-term - systemic - effects, worker	7 mg/m ³ (Worker (Arbeiter))
	Long-term - systemic effects, general population	1.74 mg/m ³ (Worker (Arbeiter))

**67-43-6 Diethylenetriamine pentaacetic acid (DTPA)/
N-carboxymethyliminobis(ethylenitrilo)tetra(acetic acid)**

Oral	Akute - systemic effects, general population	0.9 mg/kg bw/day (.)
Dermal	Long-term - systemic - effects, worker	9219 mg/kg bw/day (Worker (Arbeiter))
	Long-term - systemic effects, general population	4609 mg/kg bw/day (Worker (Arbeiter))
Inhalative	Akute -local effects, general population	2.9 mg/m ³ (.)
	Long-term - local - effects, worker	4.5 mg/m ³ (Worker (Arbeiter))
	Long-term - systemic effects, general population	0.8 mg/m ³ (.)

. PNECs
123-31-9 hydroquinone

Aquatic compartment - freshwater	0.000114 mg/L (Water)
Aquatic compartment - marine water	0.000114 mg/L (Water)
Aquatic compartment -sediment in freshwater	0.00098 mg/kg sed dw (Water)
Aquatic compartment -sediment in marine water	0.000097 mg/kg sed dw (Water)
Aquatic compartment -water, intermittent releases	0.00134 mg/L (Water)
Sewage treatment plant	0.71 mg/L (Sewage Treatment Plant)
Terrestrial compartment -soil	0.000129 mg/kg dw (Soil)

**67-43-6 Diethylenetriamine pentaacetic acid (DTPA)/
N-carboxymethyliminobis(ethylenitrilo)tetra(acetic acid)**

Aquatic compartment - freshwater	5 mg/L (.)
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Aquatic compartment - marine water	0.5 mg/L (.)
Aquatic compartment -sediment in freshwater	18 mg/kg sed dw (.)
Aquatic compartment -water, intermittent releases	2.45 mg/L (.)
Sewage treatment plant	50 mg/L (.)
Terrestrial compartment -soil	0.667 mg/kg dw (.)

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

. 8.2 Exposure controls

. Personal protective equipment:

. General protective and hygienic measures:

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing
- Wash hands before breaks and at the end of work.
- Do not inhale gases / fumes / aerosols.

. **Respiratory protection:** Ensure adequate ventilation

. Protection of hands:



Protective gloves

Impervious gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

. Material of gloves

- Butyl rubber, BR
- Nitrile rubber, NBR
- Neoprene 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. 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

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

Glove material	breakthroug-time	layer thickness
Butyl rubber:	>480 min	≥0,4mm
Nitrile rubber:	>480 min	≥0,38mm
Neoprene:	>240 min	≥0,65mm

. 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: Fluid

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Colour:	Colourless
Odour:	Recognisable
pH-value at 20 °C:	11.3
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	> 100 °C
Flash point:	Not applicable.
Self-igniting:	Product is not selfigniting.
Danger of explosion:	Product does not present an explosion hazard.
Vapour pressure at 20 °C:	23 hPa
Density at 20 °C:	1.289 g/cm ³
Solubility in / Miscibility with water:	Fully miscible.
Solvent content:	
Organic solvents:	0.0 %
Water:	>80 %
9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- . 10.1 Reactivity
- . 10.2 Chemical stability
- . **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- . 10.3 **Possibility of hazardous reactions** Reacts with acids, alkalis and 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:**
Nitrogen oxides (NO_x)
Irritant gases/vapours

SECTION 11: Toxicological information

- . 11.1 Information on toxicological effects
- . Acute toxicity:

LD/LC50 values relevant for classification:		
123-31-9 hydroquinone		
Oral	LD50	320 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)
584-08-7 potassium carbonate		
Oral	LD50	>2000 mg/kg (rat)
1310-73-2 sodium hydroxide (caustic soda)		
Oral	LD50	>2000 mg/kg (rat)
67-43-6 Diethylenetriamine pentaacetic acid (DTPA)/ N-carboxymethyliminobis(ethylenitrilo)tetra(acetic acid)		
Oral	LD50	>5000 mg/kg (rat)

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Dermal	LD50	>2000 mg/kg (rat)
Inhalative	LC50	4h: 1-5 mg/L (rat)
92-43-3 1-Phenyl-3-pyrazolidone		
Oral	LD50	475 mg/kg (rat)

. Primary irritant effect:

- . **on the skin:** Irritant to skin and mucous membranes.
- . **on the eye:** Strong irritant with the danger of severe eye injury.
- . **Sensitisation:** Sensitisation possible through skin contact.

. Additional toxicological information:

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

- . **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Muta. 2, Carc. 2

SECTION 12: Ecological information

. 12.1 Toxicity

. Aquatic toxicity:

123-31-9 hydroquinone	
EC50	48h: 0.29 mg/l (daphnia magna (Großer Wasserfloh))
LC50	96h: 0.044 mg/L (Pimephales promelas)
1310-73-2 sodium hydroxide (caustic soda)	
EC50	24h: 76 mg/l (daphnia magna (Großer Wasserfloh))
LC50	48h: 99 mg/L (Lepomis macrochirus)
	96h: 45.4 mg/L (Oncorhynchus mykiss)
67-43-6 Diethylenetriamine pentaacetic acid (DTPA)/ N-carboxymethyliminobis(ethylenitrilo)tetra(acetic acid)	
LC50	96h: >100 mg/L (lcs)
	96h: >674 mg/L (Oncorhynchus mykiss)
92-43-3 1-Phenyl-3-pyrazolidone	
EC50	96h: 10 mg/l (daphnia magna (Großer Wasserfloh))
LC50	96h: 1-10 mg/L (fish (acute toxicity study))

- . **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 product to reach ground water, water course or sewage system, even in small quantities.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Danger to drinking water if even extremely small quantities leak into the ground.

- . **12.5 Results of PBT and vPvB assessment**

- . **PBT:** Not applicable.

- . **vPvB:** Not applicable.

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. 12.6 Other adverse effects No further relevant information available.

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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

09 01 01	water-based developer and activator solutions
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. Uncleaned packaging:

. Recommendation: Disposal must be made according to official regulations.

. Recommended cleansing agents: Water, if necessary together with cleansing agents.

SECTION 14: Transport information

. 14.1 UN-Number

. ADR, IMDG, IATA

UN3082

. 14.2 UN proper shipping name

. ADR

3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

. IMDG

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone), MARINE POLLUTANT

. IATA

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone)

. 14.3 Transport hazard class(es)

. ADR



. Class

9 (M6) Miscellaneous dangerous substances and articles.

. Label

9

. IMDG, IATA



. Class

9 Miscellaneous dangerous substances and articles.

. Label

9

. 14.4 Packing group

. ADR, IMDG, IATA

III

. 14.5 Environmental hazards:

Product contains environmentally hazardous substances: hydroquinone

. Marine pollutant:

Yes
Symbol (fish and tree)

. Special marking (ADR):

Symbol (fish and tree)

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. Special marking (IATA):	Symbol (fish and tree)
. 14.6 Special precautions for user	Warning: Miscellaneous dangerous substances and articles.
. Danger code (Kemler):	90
. EMS Number:	F-A,S-F
. Segregation groups	Alkalis
. 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
. Transport/Additional information:	
. ADR	
. 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
. Transport category	3
. Tunnel restriction code	E
. 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":	UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (hydroquinone), 9, III

SECTION 15: Regulatory information

- . **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- . **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**

- H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H360FD May damage fertility. May damage the unborn child.
H361 Suspected of damaging fertility or the unborn child.
H400 Very toxic to aquatic life.

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- H411 Toxic to aquatic life with long lasting effects.
- R20 Harmful by inhalation.
- R22 Harmful if swallowed.
- R35 Causes severe burns.
- R36 Irritating to eyes.
- R36/38 Irritating to eyes and skin.
- R40 Limited evidence of a carcinogenic effect.
- R41 Risk of serious damage to eyes.
- R43 May cause sensitisation by skin contact.
- R50 Very toxic to aquatic organisms.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R60 May impair fertility.
- R61 May cause harm to the unborn child.
- R63 Possible risk of harm to the unborn child.
- R68 Possible risk of irreversible effects.

Contact: e-mail: sida@tetenal.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)

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

Met. Corr.1: Corrosive to metals, Hazard Category 1

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 2: Carcinogenicity, Hazard Category 2

Repr. 1B: Reproductive toxicity, Hazard Category 1B

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - Chronic Hazard, Category 2

*** Data compared to the previous version altered.**