



Safety data sheet according to 1907/2006/EC, Article 31

Printing date 25.01.2022


Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

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

- **1.1 Product identifier**
- **Trade name: KEIM ROYALAN**
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
- **Application of the substance / the mixture** Silicate exterior paint
- **Uses advised against** All other uses are not recommended.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
KEIM MINERAL PAINTS LTD
Santok Building / Deer Park Way, Donnington Wood GB-Telford, Shropshire TF2 7NA
Tel +44 1952 231 250 / Fax +44 1952 231 251
www.keim.com / sales@keimpaints.co.uk
- **Further information obtainable from:**
David Pratt
Telefon: +44 1952 231250
E-Mail: sales@keimpaints.co.uk
- **1.4 Emergency telephone number:**
GBK GmbH Global Regulatory Compliance
Emergency number: +49(0)6132/84463

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Skin Sens. 1 H317 May cause an allergic skin reaction.
Aquatic Chronic 3 H412 Harmful 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**

GHS07
- **Signal word** Warning
- **Hazard-determining components of labelling:**
2-octyl-2H-isothiazol-3-one
4,5-dichloro-2-octyl-2H-isothiazol-3-one
- **Hazard statements**
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
P102 Keep out of reach of children.

(Contd. on page 2)



Safety data sheet

according to 1907/2006/EC, Article 31

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Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 1)

- P261 Avoid breathing mist/vapours/spray.
P280 Wear protective gloves / protective clothing.
P273 Avoid release to the environment.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P501 Dispose of contents/container in accordance with regional/national regulations.

Additional information:

EUH211 Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

- **2.3 Other hazards** Alkaline product. Avoid contact with skin and eyes.

Results of PBT and vPvB assessment

- **PBT:** Not applicable
- **vPvB:** Not applicable

SECTION 3: Composition/information on ingredients

3.2 Mixtures

- **Description:** Purely mineral fillers, potassium water glass, pure acrylate emulsion

Dangerous components:

CAS: 13463-67-7 EINECS: 236-675-5 Index number: 022-006-00-2 Reg.nr.: 01-2119486799-10-xxxx	titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$] ☠ Carc. 2, H351	2.5-10%
CAS: 26530-20-1 EINECS: 247-761-7 Index number: 613-112-00-5	2-octyl-2H-isothiazol-3-one ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; ☠ Skin Corr. 1, H314; Eye Dam. 1, H318; ☠ Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=100); ☠ Skin Sens. 1A, H317, EUH071 Specific concentration limit: Skin Sens. 1A; H317: C $\geq 0.0015 \%$	< 0.025%
CAS: 64359-81-5 EINECS: 264-843-8 Index number: 613-335-00-8	4,5-dichloro-2-octyl-2H-isothiazol-3-one ☠ Acute Tox. 2, H330; ☠ Skin Corr. 1, H314; Eye Dam. 1, H318; ☠ Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=100); ☠ Acute Tox. 4, H302; Skin Sens. 1A, H317, EUH071 Specific concentration limits: Skin Irrit. 2; H315: C $\geq 0.025 \%$ Eye Irrit. 2; H319: C $\geq 0.025 \%$ Skin Sens. 1A; H317: C $\geq 0.0015 \%$	< 0.01%

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

GB

(Contd. on page 3)



Safety data sheet according to 1907/2006/EC, Article 31

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Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 2)

SECTION 4: First aid measures

· 4.1 Description of first aid measures

· **General information:**

With appearance of symptoms or in cases of doubt seek medical advice .

When seeing the doctor we suggest to present this safety data sheet.

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

Do not use solvents or thinners.

If skin irritation continues, consult a doctor.

· **After eye contact:**

Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse mouth and throat well with water.

Do not induce vomiting; call for medical help 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:**

Product itself does not burn. Co-ordinate fire-fighting measures to the fire surroundings.

· 5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

carbon oxide (CO_x)

silicon dioxid (SiO₂)

acrylic monomers

· 5.3 Advice for firefighters

· **Specila protective equipment:** Wear self-contained respiratory protective device.

· **Additional information**

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

In case of fire do not breathe smoke, fumes and vapours.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Avoid contact with skin and eyes.

Particular danger of slipping on leaked/spilled product.

Respect the protection rules (see section 7 a. 8).

· 6.2 Environmental precautions:

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

(Contd. on page 4)



Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 25.01.2022

Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 3)

Follow local governmental rules and regulations.

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

· **6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of the material collected according to regulations.

Clear contaminated areas thoroughly.

Flush rests with sufficient amount of water.

· **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**

Avoid contact with skin and eyes.

Do not inhale aerosols.

Keep receptacles tightly sealed.

Open and handle receptacle with care.

See item 8 (8.2) for information about suitable protective equipment and technical precautions.

Respect the protection rules.

· **Information about fire - and explosion protection:**

The product is not flammable.

No special measures required.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Keep in the original containers in a cool and dry place.

Store only in unopened original receptacles.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Store in a cool place.

Protect from frost.

Protect from heat and direct sunlight.

Please note information on label

· **Storage class:** 12

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

GB

(Contd. on page 5)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.01.2022

Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 4)

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· Ingredients with limit values that require monitoring at the workplace:

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

WEL	Long-term value: $10^* 4^{**} \text{ mg/m}^3$ *total inhalable **respirable
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· **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

· Individual protection measures, such as personal protective equipment

· General protective and hygienic measures:

Avoid contact with the eyes and skin.

Do not inhale aerosols.

Wash hands before breaks and at the end of work.

Immediately remove all soiled and contaminated clothing.

· Respiratory protection:

Use suitable respiratory protective device only when aerosol or mist is formed.

Combination filter A/P

· Hand protection Protective gloves

· Material of gloves

suitable material e.g.:

Nitrile rubber, NBR

Natural rubber, NR

PVC gloves

Recommended thickness of the material: $\geq 0.5 \text{ mm}$

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

Value for the permeation: level ≥ 6 (480 min)

The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

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

· Eye/face protection Tightly sealed goggles

· Body protection:

Protective work clothing

After contact with skin wash thoroughly with water and apply lotion.

· Environmental exposure controls

See Section 12 and 6.2

(Contd. on page 6)

GB



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.01.2022

Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

No further relevant information available.

(Contd. of page 5)

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state	Fluid
· Colour:	According to product specification
· Odour:	Weak, characteristic
· Odour threshold:	Not determined
· Melting point/freezing point:	Not determined
· Boiling point or initial boiling point and boiling range	Not determined
· Flammability	Not applicable
· Lower and upper explosion limit	
· Lower:	Not applicable
· Upper:	Not applicable
· Flash point:	Not applicable
· Auto-ignition temperature:	Product is not selfigniting.
· Decomposition temperature:	Not determined
· pH at 20 °C	11.4*
· Viscosity:	
· Kinematic viscosity	Not determined
· Dynamic at 20 °C:	900-1.200* mPas
· Solubility	
· water:	Miscible
· Partition coefficient n-octanol/water (log value)	Not applicable
· Vapour pressure at 20 °C:	~23 hPa
· Density and/or relative density	
· Density at 20 °C:	1.3-1.6* g/cm ³
· Relative density	Not determined
· Vapour density	Not applicable.

· 9.2 Other information

	* The values are for freshly produced material and may change with the time.
· Appearance:	
· Form:	Pasty
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Not determined
· Explosive properties:	Product does not present an explosion hazard.
· Change in condition	
· Softening point/range	
· Oxidising properties:	Not applicable

(Contd. on page 7)

GB



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.01.2022

Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 6)

· Evaporation rate	Not applicable
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Stable under normal conditions of storage and use.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Acids
Metals
- **10.6 Hazardous decomposition products:**
In case of fire, the following can be released:
Carbon oxides (COx)
silicon dioxid (SiO₂)
acrylic monomers
No hazardous decomposition products if stored and handled as prescribed.

GB

(Contd. on page 8)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.01.2022

Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 7)

SECTION 11: Toxicological information

- 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- Acute toxicity

- LD/LC50 values relevant for classification:

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

Inhalative	ATE mix (4h)	>5 mg/l (inhalative)
	ATE mix	>2,000 mg/kg (dermal)
		>2,000 mg/kg (orally)
	NOAEL	3,500 mg/kg /Oral (rat) (90d)

26530-20-1 2-octyl-2H-isothiazol-3-one

Oral	LD50	125 mg/kg (ATE)
Dermal	LD50	311 mg/kg (ATE)
Inhalative	LC50/4 h	0.27 mg/l (ATE)

64359-81-5 4,5-dichloro-2-octyl-2H-isothiazol-3-one

Oral	LD50	567 mg/kg (ATE)
Dermal	LD50	>2,000 mg/kg (ATE)
Inhalative	LC50/4 h	0.16 mg/l (ATE)

- **Skin corrosion/irritation** Frequent persistent contact with the skin may cause skin irritation.
- **Serious eye damage/irritation** In case of longer exposure, irritating effect is possible.
- **during inhalation:** Irritant effect possible.
- **during swallowing:** Irritant effect possible
- **Respiratory or skin sensitisation**
Contains OIT, DCOIT. May produce an allergic reaction.
OIT = 2-octyl-2H-isothiazol-3-one
DCOIT = 4,5-dichloro-2-octyl-2H-isothiazol-3-one
- **Other information (about experimental toxicology):**
Experimental analysis are not available.
The product was not tested. The statements on toxicology have been derived from the properties of the individual components.
- **Subacute to chronic toxicity:**

- Repeated dose toxicity

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

Inhalative	NOAEC	10 mg/m ³ (rat) (90d)
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- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** Not applicable
- 11.2 Information on other hazards

- Endocrine disrupting properties

None of the ingredients is listed.

GB

(Contd. on page 9)



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 25.01.2022

Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 8)

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

Harmful to aquatic organisms.

May cause long-term adverse effects in the aquatic environment.

13463-67-7 titanium dioxide [in powder form containing 1 % or more of particles with aerodynamic diameter $\leq 10 \mu\text{m}$]

NOEC	$\geq 100,000$ mg/kg (sediment fresh water) Hyalella azteca
EC50	>100 mg/kg (Freshwater algae) (OECD 201)
EC 50	>10,000 mg/l (algae) (ISO 10253)
LC 50	>10,000 mg/l (marine fish) (OECD 203) >1,000 mg/l (freshwater fish) (EPA-540/9-85-006) >1,000 mg/l (daphnia) (OECD 202)

26530-20-1 2-octyl-2H-isothiazol-3-one

NOEC	0.004 mg/l /72h (algae) (OECD 201) 0.022 mg/l /28d (fish) (OECD 210) 0.002 mg/l /21d (daphnia) (OECD 211)
EC 20/30min	10.4 mg/l (sewage sludge) (Literatur)
EC 50/48h	0.42 mg/l (daphnia) (OECD 202)
EC 50/72 h	0.084 mg/l (algae) (OECD 201)
EC20/3h	7.3 mg/l (sewage sludge) (OECD 209)
LC 50/96 h	0.036 mg/l (fish) (OECD 203)

64359-81-5 4,5-dichloro-2-octyl-2H-isothiazol-3-one

NOEC	0.015 mg/l (algae) (OECD 201) 0.00047 mg/l /28d (fish) (OECD 210) 0.0004 mg/l /21d (daphnia) (OECD 211)
EC 50/48h	0.0097 mg/l (daphnia) (OECD 202)
EC 50/72 h	0.025 mg/l (algae) (OECD 201)
LC 50/96 h	0.0078 mg/l (fish) (OECD 203)

12.2 Persistence and degradability No further relevant information available.

12.3 Bioaccumulative potential Non significant accumulation in organisms

Bioconcentration factor (BCF)

64359-81-5	4,5-dichloro-2-octyl-2H-isothiazol-3-one	13
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12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable

vPvB: Not applicable

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

(Contd. on page 10)



Safety data sheet according to 1907/2006/EC, Article 31

Printing date 25.01.2022

Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 9)

- **12.7 Other adverse effects**
- **Additional ecological information:**
- **AOX-indication:**
The product can take influence in small measure on the AOX-load of the waste water.
- **According to the formulation contains the following heavy metals and compounds from the EU guideline NO. 2006/11/EC:**
The product contains TiO₂.
- **General notes:**
Do not allow product to reach ground water, water course or sewage system.
The statements on ecotoxicology have been derived from the properties of the individual components.
At present there are no ecotoxicological assessments.
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

· **European waste catalogue**

08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances
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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary with cleansing agents.

SECTION 14: Transport information

- | | |
|--|-----------------|
| · 14.1 UN number or ID number
· ADR, IMDG, IATA | Void |
| · 14.2 UN proper shipping name
· ADR, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es)
· ADR, IMDG, IATA
· Class | Void |
| · 14.4 Packing group
· ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards: | Not applicable. |
| · 14.6 Special precautions for user | Not applicable |

(Contd. on page 11)



Safety data sheet

according to 1907/2006/EC, Article 31

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Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 10)

· 14.7 Maritime transport in bulk according to IMO instruments	Not applicable
· Transport/Additional information:	No dangerous good in sense of these transport regulations.
· UN "Model Regulation":	Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
For information on labelling please refer to section 2 of this document.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **National regulations:**
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **Other regulations, limitations and prohibitive regulations**
- **Please note:**
TRGS 200 (Germany)
TRGS 500 (Germany)
TRGS 510 (Germany)
TRGS 900 (Germany)
- **Substances of very high concern (SVHC) according to REACH, Article 57** Not applicable
- **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**
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H330 Fatal if inhaled.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
EUH071 Corrosive to the respiratory tract.
- **Department issuing SDS:** KEIMFARBEN Germany, Product safety department

(Contd. on page 12)



Safety data sheet
according to 1907/2006/EC, Article 31

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Version number 14.0 (replaces version 13.1)

Revision: 25.01.2022

Trade name: KEIM ROYALAN

(Contd. of page 11)

· Abbreviations and acronyms:

ADR: Accord relatif au transport international 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)

TRGS: Technische Regeln für Gefahrstoffe (Technical Rules for Dangerous Substances, BAuA, Germany)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

EC10: Effective concentration at 10% mortality rate.

EC50: Half maximal effective concentration.

LC10: Lethal concentration at 10% mortality rate.

NOEC: No observed effect concentration.

REACH: Registration, Evaluation and Authorisation of Chemicals (Regulation (EC) No.1907/2006)

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1: Skin corrosion/irritation – Category 1

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Skin Sens. 1: Skin sensitisation – Category 1

Skin Sens. 1A: Skin sensitisation – Category 1A

Carc. 2: Carcinogenicity – 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 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· * Data compared to the previous version altered.