

Printing date: 24.02.2023 Version number 16 (replaces version 15) Revision: 24.02.2023

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

- · 1.1 Product identifier
- · Trade name: Pre-gold plating bath VG 204 (2g Au/l und 3 g Au/l)

  Vorvergoldungsbad VG 204 (2g Au/l und 3 g Au/l)
- · Article number:

86901600 = 2 g Au/l 86901610 = 3 g Au/l 81020412 = 2 g Au/l, 1 l 81020413 = 3 g Au/l, 1 l

- · 1.2 Relevant identified uses of the substance or mixture and uses advised against Not approved for private consumers.
- · Application of the substance / the mixture Galvanic bath
- 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Heimerle + Meule GmbH Dennigstrasse 16 D-75179 Pforzheim

Telefon +49 (0) 7231 940-0 Telefax +49 (0) 7231 940-2199 www.heimerle-meule.com

· Further information obtainable from:

Abteilung BASU - Bau/Arbeitssicherheit/Umwelt Department BASU - Construction / Occupational Safety / Environment sds@heimerle-meule.com

IATA - 24h Emergency Contact - IATA - 24h Emergency Contact - (Dangerous goods emergency number) +49 172 739 6970

· 1.4 Emergency telephone number:

DEUTSCHLAND - GERMANY:

Vergiftungs-Informations-Zentrale Freiburg, ++49 761 19240 (24 h)

(Poisoning Information Center)

GREAT BRITAIN:

National Poisons Information Service +44 121 507 4123

Members of the public seeking specific information on poisons should contact:

In England and Wales: NHS 111 - dial 111 - In Scotland: NHS 24 - dial 111 IRELAND

+353 1 809 2166 (7 Days 8 am -10 pm)

Healthcare Professionals: +353 1 809 2566

ITALY:

Istituto Superiore di Sanità (ISS) +3906499906140

Centro Antiveleni

Bergamo: +39 800 883300 Firenze +39 055 794 7819 Milano: +39 055 794 7819 Roma +39 06 68593726

Roma +39 06 49978000

Roma +39 06 3954343

KROATIA - REPUBLIKA HRVATSKA:

(+385) 01 2348 342 ESTLAND - ESTONIA:

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Tervisemeti Mürgistusteabekeskuse

National (24/7): 16662

(+372) 7943 794

LETTLAND - LATVIA:

Valsts Toksikoloģijas centrs, Saindēšanās un zāļu informācijas centrs,

(24h) 112

(24h) +371 67042473

LITAUEN - LIETUVOS RESPUBLIKA:

Poison Information Bureau (24/7), Tel.: +8 5 236 20 52

Apsinuodijimų informacijos biuras

### SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



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

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H332 Harmful if inhaled.

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 GB CLP regulation.

· Hazard pictograms



· Signal word Danger

· Hazard-determining components of labelling:

sulphuric acid

Potassium dicyanoaurate

· Hazard statements

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

*P273* Avoid release to the environment.

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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.

P321 Specific treatment (see on this label).

P405 Store locked up.

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

· Additional information:

EUH208 Contains Potassium dicyanoaurate. May produce an allergic reaction.

- · 2.3 Other hazards
- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.

### SECTION 3: Composition/information on ingredients

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

· Dangerous components / Information on ingredients:		
CAS: 77-92-9 EINECS: 201-069-1 Index number: 607-750-00-3 RTECS: GE 7350000	citric acid; 1,2,3-Propanetricarboxylic acid, 2-hydroxy-; 2-Hydroxy-1,2,3-propanetricarboxylic acid; Citronensäure  © Eye Irrit. 2, H319; STOT SE 3, H335	1-2.5%
CAS: 7664-93-9 EINECS: 231-639-5 Index number: 016-020-00-8 Reg.nr.: 01-2119453338-20	sulphuric acid; sulfuric acid  Met. Corr.1, H290; Skin Corr. 1A, H314  Specific concentration limits: Skin Corr. 1A; H314: $C \ge 15$ %  Skin Irrit. 2; H315: $5$ % $\le C < 15$ %  Eye Irrit. 2; H319: $5$ % $\le C < 15$ %	0.5-1%
CAS: 13967-50-5 EINECS: 237-748-4 Reg.nr.: 01-2120130777-52	Potassium dicyanoaurate  Acute Tox. 2, H300; Acute Tox. 2, H330  Met. Corr.1, H290; Eye Dam. 1, H318  Aquatic Acute 1, H400; Aquatic Chronic 1, H410  Skin Irrit. 2, H315; Skin Sens. 1, H317	0.25-0.5%

#### · Additional information:

The potassium goldcyanide - K[Au(CN)2] - , which is used at the preparation, has a strong complexity and is also very strong pH- buffert.

Arelease of the cyanide containing (a formation of very poisoning hydrocyanic acid) is only possible by addition of a big quantity of concentrated acids.

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:

Immediately remove any clothing soiled by the product.

Personal protection for the First Aider.

Take affected persons out of danger area and lay down.

Involve doctor immediately after a accident or unwell

- · After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- · After skin contact:

Immediately wash with water and soap and rinse thoroughly.

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Immediately rinse with water.

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:

Call a doctor immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

A person vomiting while laying on their back should be turned onto their side.

Rinse out mouth and then drink plenty of water.

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

Cyanosis

Cyanides poisoning

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.
- · For safety reasons unsuitable extinguishing agents: Water with full jet
- · 5.2 Special hazards arising from the substance or mixture

Formation of very toxic gases is possible during heating or in case of fire.

Hydrogen cyanide (HCN)

- · 5.3 Advice for firefighters
- · Protective equipment:

Mount respiratory protective device.



Wear self-contained respiratory protective device.

Beware: Filter masks provide protection for a short period of time only. They should only be used in exceptional cases, that is if a small amount of the substance has spilled out or in order to fight spillages and fire

· Additional information

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

Collect contaminated fire fighting water separately. It must not enter the sewage system.

### SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

Use respiratory protective device against the effects of fumes/dust/aerosol.

Only handle and refill product in closed systems.

· 6.2 Environmental precautions:

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.

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.

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#### · 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

Carry out filling operations only at sites with extractors available.

Keep receptacles tightly sealed.

Ensure good ventilation/exhaustion at the workplace.

he usual precautionary measures are to be adhered to when handling chemicals.

Prevent formation of aerosols.

Wear suitable respiratory protective device when decanting larger quantities without extractor facilities.

Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

- · Information about fire and explosion protection: Keep respiratory protective device available.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles:

Observe official regulations on storing packagings.

Observe official regulations on storing packagings.

Prevent any seepage into the ground.

· Information about storage in one common storage facility:

Store away from foodstuffs.

· Further information about storage conditions:

Keep container tightly sealed.

Store under lock and key and out of the reach of children.

- · Storage class: 8 B
- · 7.3 Specific end use(s) No further relevant information available.

### SECTION 8: Exposure controls/personal protection

#### · 8.1 Control parameters

· Ingredients with limit valu	Ingredients with limit values that require monitoring at the workplace:		
CAS: 866-83-1 potassium dihydrogen 2-hydroxypropane-1,2,3-tricarboxylate			
MAK (Germany)	vgl. Abschn. IIb und Xc		
CAS: 7664-93-9 sulphuric acid			
WEL (Great Britain)	Long-term value: 0.05* mg/m³ *mist: defined as thoracic fraction		
IOELV (European Union)	Long-term value: 0.05 mg/m³		
AGW (Germany)	Long-term value: 0.1 E mg/m³ 1(I);DFG, EU, Y		
CAS: 13967-50-5 Potassium dicyanoaurate			
WEL (Great Britain)	Long-term value: 5 mg/m³ as CN; Sk		
MAK (Germany)	Long-term value: 2E mg/m³ als CN		

Regulatory information

MAK (Germany): MAK- und BAT-Liste WEL (Great Britain): EH40/2020

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IOELV (European Union): (EU) 2019/1831

AGW (Germany): TRGS 900

- · Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Appropriate engineering controls No further data; see item 7.
- · Individual protection measures, such as 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.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

According to EC Directive 89/686/EEC

#### · Respiratory protection:

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

Not necessary if room is well-ventilated.

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.

Beware: Filter masks provide protection for a short period of time only. They should only be used in exceptional cases, that is if a small amount of the substance has spilled out or in order to fight spillages and fire.

according EN 14387 according to EN 143

- · Recommended filter device for short term use: Combination filter B-P2
- · Hand protection

Acid resistant gloves

Check protective gloves prior to each use for their proper condition.



Protective gloves

according to EN 374

To avoid skin problems reduce the wearing of gloves to the required minimum.

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

Sensibilisation by the components in the glove materials is possible.

*Check the permeability prior to each anewed use of the glove.* 

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

Prior to working with gloves the rubbing in with tanniferous skin-protecting agents for the avoidance of skin softening due to perspiration is recommended.

· Material of gloves

Chloroprene rubber, CR

Recommended thickness of the material:  $\geq 0.65$  mm

· Penetration time of glove material

For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 16523-1:2015: Level 6).

*Value for the permeation:* Level  $\leq 3$ 

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

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.

For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 3).

*Value for the permeation: Level*  $\leq$  3

· Not suitable are gloves made of the following materials:

Leather gloves

Strong material gloves

· Eye/face protection



Tightly sealed goggles

according to EN 166

· Body protection: Protective work clothing

### SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

Physical state
Colour:
Odour:
Odour less
Odour threshold:
Melting point/freezing point:
Fluid
Light yellow
Odour less
Not determined.
Undetermined.

· Boiling point or initial boiling point and boiling

range Undetermined.
• Flammability Not applicable.

· Lower and upper explosion limit

Lower: Not determined.
Upper: Not determined.
Flash point: Not applicable.
Decomposition temperature: Not determined.

 $\cdot pH \text{ at } 20^{\circ}C (68^{\circ}F)$  1.5

· Viscosity:

Kinematic viscosityDynamic:Not determined.Not determined.

·Solubility

water: Fully miscible.
 Partition coefficient n-octanol/water (log value)
 Vapour pressure: Not determined.

· Density and/or relative density

• **Density at 20°C (68°F):** 1.04 g/cm³ (8.68 lbs/gal)

Relative density
 Vapour density
 Not determined.
 Not determined.

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9.2 Other information

· Appearance:

· Form: Fluid

· Important information on protection of health and

environment, and on safety.

· Auto-ignition temperature: Product is not selfigniting.

• Explosive properties: Product does not present an explosion hazard.

· Change in condition

· Evaporation rate Not determined.

<del>-</del>	
· 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 flamm	able
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
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · 10.3 Possibility of hazardous reactions

Contact with acids releases very toxic gases

Reacts with acids, alkalis and oxidising agents.

- · 10.4 Conditions to avoid No further relevant information available.
- · 10.5 Incompatible materials: Acids
- · 10.6 Hazardous decomposition products: Hydrogen cyanide (prussic acid)

### SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity Harmful if inhaled.

· LD/LC50 values relevant for classification:		
ATE (Acute Toxicity Estimates)		
Oral	LD50	9932 mg/kg (Rat)
Inhalative	LC50/4 h	17.1 mg/l (rat)

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CAS: 77-9	CAS: 77-92-9 citric acid			
Oral	LD50	6730 mg/kg (rat)		
CAS: 1396	CAS: 13967-50-5 Potassium dicyanoaurate			
Oral	LD50	29 mg/kg (Rat)		
Inhalative	LC50/4 h	0.05  mg/l /(ATE) (rat)		

- · Skin corrosion/irritation Causes severe skin burns and eye damage.
- · Serious eye damage/irritation Causes serious eye damage.
- · 11.2 Information on other hazards
- · Endocrine disrupting properties

None of the ingredients is listed.

## SECTION 12: Ecological information

- · 12.1 Toxicity
- · Aquatic toxicity: No further relevant information available.
- · 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.
- · 12.5 Results of PBT and vPvB assessment Not applicable.
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- · 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

- · 12.7 Other adverse effects
- · Remark: Harmful to fish
- · Additional ecological information:
- · General notes:

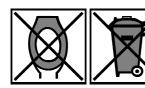
Do not allow product to reach ground water, water course or sewage system.

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

Harmful to aquatic organisms

### 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.

Contact manufacturer for recycling information.

· Waste disposal key:

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

- · Uncleaned packaging:
- · Recommendation:

Disposal must be made according to official regulations.

Packaging which is uncleaned or soiled with product remains is to be treated like the product itself

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Packaging free of product remains is to be supplied refuse for recycling. Only if no adequate collecting system is available, they may be disposed of through the domestic rubbish

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

SECTION 14: Transport information	
14.1 UN number or ID number ADR, IMDG, IATA	UN3264
14.2 UN proper shipping name ADR IMDG, IATA	UN3264 CORROSIVE LIQUID, ACIDIC, INORGAN N.O.S. (SULPHURIC ACID, Potassium dicyanoaurate CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.
	(SULPHURIC ACID, Potassium dicyanoaurate)
14.3 Transport hazard class(es)	
ADR, IMDG, IATA	
3	
Class	8 Corrosive substances.
Label	8
14.4 Packing group ADR, IMDG, IATA	III
14.5 Environmental hazards: Marine pollutant:	No
14.6 Special precautions for user Hazard identification number (Kemler code): EMS Number:	Warning: Corrosive substances. 80 F-A,S-B
Segregation groups	(SGG1) Acids
Stowage Category	A
Stowage Code	SW2 Clear of living quarters.
14.7 Maritime transport in bulk according to IM instruments	10 Not applicable.
Transport/Additional information:	11
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
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



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· IATA · Remarks:	24h emergency contact - (Dangerous goods emergency number)
	+49 172 739 6970
· UN "Model Regulation":	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID, POTASSIUM

DICYANOAURATE), 8, III

## **SECTION 15: Regulatory information**

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

COUNCIL DIRECTIVE 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC)

DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC

#### GADSL - Global Automotive Declarable Substance List

CAS: 6018-89-9 Acetic acid, nickel(2+) salt, tetrahydrate

D(FI)

- · Directive 2012/18/EU
- · Named dangerous substances ANNEX I None of the ingredients is listed.
- · National regulations:
- · Waterhazard class: .
- · Other regulations, limitations and prohibitive regulations -
- · 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.

· Reasons for revise

If necessary, this saftey data sheet can revised according to legal guidelines.

Our current version for your reference is available on our website www.heimerle-meule.com

· Relevant phrases

H290 May be corrosive to metals.

H300 Fatal 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.

H330 Fatal if inhaled.

H335 May cause respiratory irritation.

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H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

#### · Department issuing SDS:

Abteilung BASU - Bau/Arbeitssicherheit/Umwelt Department BASU - Construction / Occupational Safety / Environment

sds@heimerle-meule.com

#### · Contact:

Herr Thomas Knuth

thomas.knuth@heimerle-meule.com

sds@heimerle-meule.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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

AwSV: Ordinance on facilities for handling water-polluting substances (German regulation).

TRGS: Technical rules for hazardous substances (German regulation)

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Met. Corr.1: Corrosive to metals - Category 1

Acute Tox. 2: Acute toxicity - Category 2

Acute Tox. 4: Acute toxicity - Category 4

Skin Corr. 1A: Skin corrosion/irritation - Category 1A

Skin Irrit. 2: Skin corrosion/irritation - Category 2

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

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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.

GB -