

## Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 29.10.2013

Version number 1

Revision: 29.10.2013

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

- **Product identifier**
- **Trade name: Goldplattierbad Quator m. 5 g Au/l**  
**Quator red gold plating bath with 5g Au/l**
- **Article number:** 3080101402
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the preparation** Galvanic bath
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Wieland Edelmetalle GmbH  
Schwenninger Str. 13  
75179 Pforzheim  
Telefon +49 (07231)-1393-0, Telefax +49 (07231)-1393-100
- **Further information obtainable from:**  
Wieland Edelmetalle GmbH  
www.wieland-edelmetalle.de  
msds@wieland-edelmetalle.de
- **Emergency telephone number:**  
GIZ-Nord, Göttingen, Germany  
+49 551 19240  
Member of EPECS Network

### 2 Hazards identification

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



GHS06 skull and crossbones

Acute Tox. 2      H300 Fatal if swallowed.  
 Acute Tox. 1      H310 Fatal in contact with skin.  
 Acute Tox. 3      H331 Toxic if inhaled.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.

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



T+; Very toxic

R26/27/28: Very toxic by inhalation, in contact with skin and if swallowed.



N; Dangerous for the environment

R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R32: Contact with acids liberates very toxic gas.

- **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.

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- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS06 GHS09

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
potassium cyanide  
copper cyanide  
potassium dicyanoaurate
- **Hazard statements**  
H300+H310 Fatal if swallowed or in contact with skin.  
H331 Toxic if inhaled.  
H411 Toxic to aquatic life with long lasting effects.
- **Precautionary statements**  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P311 Call a POISON CENTER or doctor/physician.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Additional information:**  
EUH032 Contact with acids liberates very toxic gas.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

#### · Dangerous components:

CAS: 151-50-8 EINECS: 205-792-3	potassium cyanide T+ R26/27/28;  N R50/53 R32 Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	10-25%
CAS: 544-92-3 EINECS: 208-883-6	copper cyanide T+ R26/27/28;  N R50/53 R32 Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	5-10%

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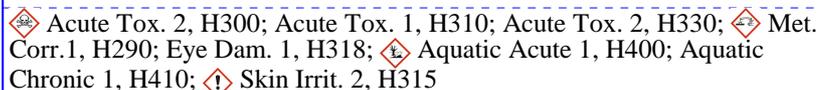
**Trade name: Goldplattierbad Quator m. 5 g Au/l**  
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CAS: 13967-50-5  
 EINECS: 237-748-4

potassium dicyanoaurate  
 T+ R26/27/28; Xi R38-41; N R50/53  
 R32

≤ 1%

 Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; Met. Corr. 1, H290; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Irrit. 2, H315

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

### 4 First aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
- **After skin contact:**  
Immediately wash with water and soap and rinse thoroughly.  
If skin irritation continues, consult a doctor.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; call for medical help immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Hazards**  
Danger of circulatory collapse.  
Danger of impaired breathing.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** Hydrogen cyanide (HCN)
- **Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **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.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

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### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Do not store together with acids.
- **Further information about storage conditions:**  
Store under lock and key and with access restricted to technical experts or their assistants only.  
Keep receptacle tightly sealed.
- **Storage class:** 6.1B
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

#### · DNELs

##### 13967-50-5 potassium dicyanoaurate

Oral	DNEL(Com.)longterm	0.05 mg/kg (-) (CN)
	DNEL(Comm.)akut	4.5 mg/kg (-) (CN)
	DNEL(Indust.)longt.	0.05 mg/kg (-) (CN)
	DNEL(Industrie) akut	4.5 mg/kg (-) (CN)

#### · PNECs

##### 13967-50-5 potassium dicyanoaurate

PNEC (Commercial)	0.03 µg/l (H2O) (CN)
PNEC (Industrie)	0.03 µg/l (H2O) (CN)

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

#### · 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.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

#### · Respiratory protection:

- 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.

Short term filter device:

Filter B

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· **Protection of hands:**

Plastic gloves



Protective gloves

· **Material of gloves**

Chloroprene rubber, CR

Butyl rubber, BR

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

· **Penetration time of glove material**

The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

Value for the permeation: Level ≤ 6

· **Not suitable are gloves made of the following materials:**

Strong material gloves

Leather gloves

· **Eye protection:**



Tightly sealed goggles

· **Body protection:** Protective work clothing

### 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

**Form:** Fluid

**Colour:** Colourless

· **Odour:** Product specific

· **pH-value at 20 °C:** 11

· **Change in condition**

**Melting point/Melting range:** Undetermined.

**Boiling point/Boiling range:** 105 °C

· **Flash point:** Not applicable.

· **Self-igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Density at 20 °C:** 1.13 g/cm<sup>3</sup>

· **Solubility in / Miscibility with**

**water:** Fully miscible.

· **Solvent content:**

**Organic solvents:** 0.0 %

**Water:** >70 %

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

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### 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** Contact with acids releases toxic gases.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Hydrogen cyanide (prussic acid)

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values relevant for classification:**

**151-50-8 potassium cyanide**

Oral	LD50	5 mg/kg (rat)
	LDLO	2.86 mg/kg (human) (RTECS)

**544-92-3 copper cyanide**

Oral	LD50	126 mg/kg (rat)
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**13967-50-5 potassium dicyanoaurate**

Oral	LD50	29 mg/kg (rat)
Dermal	LD50	100 mg/kg (human) (CN)
Inhalative	LC50	524 mg/kg (10min) (human) (HCN)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **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:  
 Very toxic  
 Danger through skin adsorption.

### 12 Ecological information

- **Toxicity**

· **Aquatic toxicity:**

**151-50-8 potassium cyanide**

EC50	2 mg/l (48h) (Daphnia magna (water flea))
	1.8-1.9 mg/l (72h) (Eutosiphon sulcatum) (CN)
IC50	0.03 mg/l (8d) (Sc.quadricauda)
LC50	0.45 mg/l (96h) (Lepomis macrochirus (bluegrill))

**13967-50-5 potassium dicyanoaurate**

EC50	0.041 mg/l (48h) (Daphnia magna (water flea)) (CN)
	1.8 mg/l (72h) (Eutosiphon sulcatum) (CN)
IC50	0.03 mg/l (8d) (Sc.quadricauda) (CN)
LC50	0.12 mg/l (96h) (Pimephales promelas (fathead minnow)) (CN)

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0.083 mg/l (96h) (Lepomis macrochirus (bluegrill)) (CN)  
0.057 mg/l (96h) (Onchorhynchus mykiss (rainbow trout)) (CN)

- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**  
Also poisonous for fish and plankton in water bodies.  
Water danger class 3 (German Regulation) (Self-assessment): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must be specially treated adhering to official regulations.  
Contact manufacturer for recycling information.
- **Uncleaned packaging:**
- **Recommendation:**  
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.  
Packagings that may not be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

- **UN-Number**
- **ADR, IMDG, IATA** UN1935
- **UN proper shipping name**
- **ADR** 1935 CYANIDE SOLUTION, N.O.S. (POTASSIUM CYANIDE, COPPER CYANIDE), ENVIRONMENTALLY HAZARDOUS
- **IMDG** CYANIDE SOLUTION, N.O.S., MARINE POLLUTANT
- **IATA** CYANIDE SOLUTION, N.O.S.
- **Transport hazard class(es)**
- **ADR**
- 
- **Class** 6.1 (T4) Toxic substances.

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· Label	6.1
· IMDG	
	
· Class	6.1 Toxic substances.
· Label	6.1
· IATA	
	
· Class	6.1 Toxic substances.
· Label	6.1
· Packing group	
· ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	Yes
	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Toxic substances.
· Danger code (Kemler):	66
· EMS Number:	F-A,S-A
· Segregation groups	Cyanides
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	100 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Remarks:	(POTASSIUM CYANIDE, COPPER CYANIDE)
· UN "Model Regulation":	UN1935, CYANIDE SOLUTION, N.O.S. (POTASSIUM CYANIDE, COPPER CYANIDE), ENVIRONMENTALLY HAZARDOUS, 6.1, II

### 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- National regulations:
- Waterhazard class: Water danger class 3 (Self-assessment): extremely hazardous for water.
- Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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**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.
- H300 Fatal if swallowed.
- H310 Fatal in contact with skin.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H330 Fatal if inhaled.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.
- R32 Contact with acids liberates very toxic gas.
- R38 Irritating to skin.
- R41 Risk of serious damage to eyes.
- R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**· Contact:** Herr Marcus Müller**· 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 Organization
- ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
- 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 Harmonized 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

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