

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

Printing date 02.02.2018

Version number 3

Revision: 02.02.2018

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

- **1.1 Product identifier**
- **Trade name:**
Rhodinette Gelb-, Blass-, Feingoldbad gebrauchsfertig, Spezialvergoldung mit 20g Au/l,
Stainless Steel Regenenerierung mit 20g Au/l
Rhodinette yellow-, pale-, fine-gold bath; Special gold bath with 20g Au/l, Replenisher for stainless steel
- **Article number:** 3010100202, 3010100302, 3010100102, 3170100302, 3070100204
- **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** Galvanic bath
- **1.3 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
- **1.4 Emergency telephone number:**
 Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

SECTION 2: Hazards identification

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



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 2 H310 Fatal in contact with skin.



GHS08 health hazard

Carc. 1B H350i May cause cancer by inhalation.



GHS09 environment

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



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **2.2 Label elements**

- **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

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Hazard pictograms



GHS06 GHS08 GHS09

Signal word Danger

Hazard-determining components of labelling:

potassium dicyanoaurate
cobalt sulphate
potassium cyanide

Hazard statements

H301 Toxic if swallowed.
H310 Fatal in contact with skin.
H332 Harmful if inhaled.
H319 Causes serious eye irritation.
H350i May cause cancer by inhalation.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe mist/vapours/spray.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

EUH208 Contains cobalt sulphate. 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 Chemical characterisation: Mixtures

• **Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 13967-50-5 EINECS: 237-748-4	potassium dicyanoaurate ☠ 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	<3%
CAS: 10043-35-3 EINECS: 233-139-2	boric acid ☠ Repr. 1B, H360FD	<1%
CAS: 151-50-8 EINECS: 205-792-3	potassium cyanide ☠ Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	<1%
CAS: 10124-43-3 EINECS: 233-334-2	cobalt sulphate ☠ Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350i; Repr. 1B, H360F; ☠ Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=10); ☠ Acute Tox. 4, H302; Skin Sens. 1, H317	<1%

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· SVHC

10043-35-3 boric acid

10124-43-3 cobalt sulphate

· 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:**

Immediately remove any clothing soiled by the product.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Do not use mouth to mouth or mouth to nose resuscitation.

· 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. Then consult a doctor.**· After swallowing:**

Rinse out mouth and then drink plenty of water.

Do not induce vomiting; call for medical help immediately.

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

Cramp

Unconsciousness

Breathing difficulty

· Hazards Danger of disturbed cardiac rhythm.**· 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** No further relevant information available.**· 5.3 Advice for firefighters****· Protective equipment:** Wear self-contained respiratory protective device.**· Additional information**

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

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions:

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

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.

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See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.

· **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:** 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

· **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:**

10124-43-3 cobalt sulphate

WEL	Long-term value: 0.1 mg/m ³
	Carc, Sen

DNELs

13967-50-5 potassium dicyanoaurate

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

PNECs

13967-50-5 potassium dicyanoaurate

PNEC (Industrie)	0.03 µg/l (H ₂ O) (CN)
PNEC (Commercial)	0.03 µg/l (H ₂ O) (CN)

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

· **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.
Short term filter device:

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Filter B

· Protection of hands:

Plastic gloves



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· Material of gloves

Chloroprene rubber, CR

Butyl rubber, BR

Fluorocarbon rubber (Viton)

Nitrile rubber, NBR

· Penetration time of glove material

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

· Not suitable are gloves made of the following materials:

Leather gloves

Strong material gloves

· 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
Colour:	Different according to colouring
Odour:	Characteristic

· pH-value at 20 °C: 7

· Change in condition

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: Undetermined.

· Flash point: Not applicable.

· Ignition temperature: Not applicable

· Auto-ignition temperature: Product is not selfigniting.

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

· Explosion limits:

Oxidising properties: None

· Density at 20 °C: 1,02 - 1,04 g/cm³

· Solubility in / Miscibility with water: Fully miscible.

· Solvent content:

Organic solvents: 0,0 %

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· 9.2 Other information

No further relevant information available.

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

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· **Acute toxicity**

Toxic if swallowed.

Fatal in contact with skin.

Harmful if inhaled.

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

ATE (Acute Toxicity Estimates)

Oral	LD50	629 mg/kg (rat)
Dermal	LD50	1,145 mg/kg
Inhalative	LC50/4 h	15.5 mg/l

13967-50-5 potassium dicyanoaurate

Oral	LD50	29 mg/kg (rat)
Dermal	LD50	100 mg/kg (human) (CN)
Inhalative	LC50/4 h	0.5 mg/l (ATE)
	LC50	524 mg/kg (10min) (human) (HCN)

151-50-8 potassium cyanide

Oral	LD50	5 mg/kg (rat)
	LDLO	2.86 mg/kg (human) (RTECS)
Dermal	LD50	5 mg/kg (ATE)
Inhalative	LC50/4 h	0.5 mg/l (ATE)

10124-43-3 cobalt sulphate

Oral	LD50	582 mg/kg (rat)
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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** Based on available data, the classification criteria are not met.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity**
May cause cancer by inhalation.
- **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** Based on available data, the classification criteria are not met.

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

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

13967-50-5 potassium dicyanoaurate

LC50	0.083 mg/l (96h) (Lepomis macrochirus (bluegrill)) (CN)
LC50	0.12 mg/l (96h) (Pimephales promelas (fathead minnow)) (CN)
	0.057 mg/l (96h) (Onchorhynchus mykiss (rainbow trout)) (CN)
EC50	0.041 mg/l (48h) (Daphnia magna (water flea)) (CN)
EC50	1.8 mg/l (72h) (Eutosiphon sulcatum) (CN)
IC50	0.03 mg/l (8d) (Sc.quadricauda) (CN)

151-50-8 potassium cyanide

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

· **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:** Toxic for fish

· Additional ecological information:

· General notes:

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

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.

· 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

Must be specially treated adhering to official regulations.

Contact manufacturer for recycling information.

· Uncleaned packaging:

· Recommendation:

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

Packaging may be reused or recycled after cleaning.

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

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SECTION 14: Transport information

· 14.1 UN-Number	UN1935
· ADR, IMDG, IATA	
· 14.2 UN proper shipping name	1935 CYANIDE SOLUTION, N.O.S. (potassium dicyanoaurate, POTASSIUM CYANIDE), ENVIRONMENTALLY HAZARDOUS
· ADR	
· IMDG	CYANIDE SOLUTION, N.O.S., MARINE POLLUTANT
· IATA	Cyanide solutions, n.o.s.
· 14.3 Transport hazard class(es)	
· ADR	
	
	
· Class	6.1 (T4) Toxic substances.
· Label	6.1
· IMDG	
	
	
· Class	6.1 Toxic substances.
· Label	6.1
· IATA	
	
· Class	6.1 Toxic substances.
· Label	6.1
· 14.4 Packing group	
· ADR, IMDG, IATA	III
· 14.5 Environmental hazards:	
· Marine pollutant:	Yes
· Special marking (ADR):	Symbol (fish and tree)
	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Toxic substances.
· Danger code (Kemler):	6.1
· EMS Number:	F-A,S-A
· Segregation groups	Cyanides
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· Segregation Code	SG35 Stow "separated from" acids.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.

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· **Transport/Additional information:**

· **ADR**

- **Limited quantities (LQ)**
- **Excepted quantities (EQ)**

5L

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **Transport category**

2

· **Tunnel restriction code**

E

· **IMDG**

- **Limited quantities (LQ)**
- **Excepted quantities (EQ)**

5L

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **Remarks:**

(potassium dicyanoaurate, potassium cyanide)

· **UN "Model Regulation":**

UN1935, CYANIDE SOLUTION, N.O.S. (potassium dicyanoaurate, POTASSIUM CYANIDE), ENVIRONMENTALLY HAZARDOUS, 6.1, III

SECTION 15: Regulatory information

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

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

H2 ACUTE TOXIC

E2 Hazardous to the Aquatic Environment

· **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, 28, 30

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
II	0.2

· **Waterhazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

10043-35-3 boric acid

10124-43-3 cobalt sulphate

· **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.

H300 Fatal if swallowed.

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- H302 Harmful if swallowed.
- H310 Fatal in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H330 Fatal if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H341 Suspected of causing genetic defects.
- H350i May cause cancer by inhalation.
- H360F May damage fertility.
- H360FD May damage fertility. May damage the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

· **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)
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
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Met. Corr. 1: Corrosive to metals – Category 1
Acute Tox. 2: Acute toxicity – Category 2
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 1: Acute toxicity – Category 1
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
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
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.**