

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

Printing date 20.02.2013

Version number 1

Revision: 20.02.2013

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

- **Product identifier**
- **Trade name:**
Rhodinette-Silberbad gebrauchsfertig; Hochleistungs-Galvano-Glantzsilberbad m. 30 g Ag/l;
Glantzsilberbad gebrauchsfertig, cyanidisch mit 30 g Ag/l
Rhodinette silver bath; Galvanoplast bright silver bath with 30g Ag/l; WILAPLAT bright silver bath
(ready to use), cyanidic
- **Article number:** 3010300102, 3060300302, 3090300202
- **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.



GHS05 corrosion

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



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.



C; Corrosive

R34: Causes burns.

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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.

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

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

Hazard pictograms

GHS05 GHS06 GHS09

Signal word Danger**Hazard-determining components of labelling:**

potassium cyanide

potassium dicyanoargentate

Hazard statements

H300+H310+EUH032 Fatal if swallowed or in contact with skin. Contact with acids liberates very toxic gas.

H331 Toxic if inhaled.

H314 Causes severe skin burns and eye damage.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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 or doctor/physician.

P361 Remove/Take off immediately all contaminated clothing.

P405 Store locked up.

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

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.

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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: 506-61-6 EINECS: 208-047-0	potassium dicyanoargentate  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	1-5%
CAS: 584-08-7 EINECS: 209-529-3	potassium carbonate  Xn R22;  Xi R36/37/38  Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	1-5%

• **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.

Remove breathing equipment only after contaminated clothing have been completely removed.

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.

Information for doctor:

Most important symptoms and effects, both acute and delayed

Headache

Dizziness

Breathing difficulty

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

In case of fire, the following can be released:

Hydrogen cyanide (HCN)

Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

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· Additional information

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

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· 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.

· 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.

See Section 13 for disposal information.

7 Handling and storage

· Handling:

· 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.

· 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

506-61-6 potassium dicyanoargentate

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)

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· PNECs

506-61-6 potassium dicyanoargentate

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

· Protection of hands:



Protective gloves

· Material of gloves

Chloroprene rubber, CR

Butyl rubber, BR

Nitrile rubber, NBR

Fluorocarbon rubber (Viton)

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 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

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:

Strong material gloves

Leather gloves

· Eye protection:



Tightly sealed goggles

· Body protection: Protective work clothing

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9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - Form:** Fluid
 - Colour:** Dark brown
 - Odour:** Characteristic
- **pH-value at 20 °C:** 13-14
- **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.
- **Explosion limits:**
- **Oxidizing properties** None
- **Density at 20 °C:** 1.12 g/cm³
- **Solubility in / Miscibility with water:** Fully miscible.
- **Solvent content:**
- **Water:** >70 %
- **Other information** No further relevant information available.

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)

- **506-61-6 potassium dicyanoargentate**

Oral	LD50	21 mg/kg (rat)
Dermal	LD50	100 mg/kg (human)
Inhalative	LC50	524 mg/kg (10min) (human) (HCN)

- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.

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- **on the eye:** Strong caustic 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:
Corrosive
Very toxic
Danger through skin adsorption.
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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))

506-61-6 potassium dicyanoargentate

EC50	0.0015 mg/l (48h) (Daphnia magna (water flea)) (Ag) 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	0.0049 mg/l (96h) (Pimephales promelas (fathead minnow)) (Ag) 0.12 mg/l (96h) (Pimephales promelas (fathead minnow)) (CN) 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:**
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.
- **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.

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Contact manufacturer for recycling information.

- **Uncleaned packaging:**
- **Recommendation:**
Packaging may be reused or recycled after 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, potassium dicyanoargentate)
· IMDG	CYANIDE SOLUTION, N.O.S. (POTASSIUM CYANIDE, POTASSIUM DICYANOARGENTATE) MARINE POLLUTANT
· IATA	CYANIDE SOLUTION, N.O.S. (POTASSIUM CYANIDE, POTASSIUM DICYANOARGENTATE)
· 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
· Packing group	
· ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	Yes
· Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user	Warning: Toxic substances.
· Danger code (Kemler):	66

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· 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
· UN "Model Regulation":	UN1935, CYANIDE SOLUTION, N.O.S., 6.1, II

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
I	3-<5

- **Waterhazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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

H300 Fatal if swallowed.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

R22 Harmful if swallowed.
R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed.
R32 Contact with acids liberates very toxic gas.
R36/37/38 Irritating to eyes, respiratory system and skin.
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

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GHS: Globally Harmonized System of Classification and Labelling of Chemicals
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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

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