

Printing date 26.02.2013 Version number 1 Revision: 26.02.2013

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

- · Product identifier
- Trade name: Wilaplat Hartglanzvergoldung gelb cyanidhaltig 1g Au/l Wilaplat Hartglanzvergoldung rötlich, cyanidhaltig 1g Au/l
- · Article number: 3100102003, 3100102403
- · Relevant identified uses of the substance or mixture and uses advised against

No further relevant information available.

- $\cdot \ \textbf{Application of the substance} \ / \ \textbf{the preparation} \ Galvanic \ bath$
- · 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. 2 H330 Fatal if inhaled.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 1B H350 May cause cancer.



GHS05 corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.





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Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

### 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.

T; Toxic

R49: May cause cancer by inhalation.

Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

X

Xi; Irritant

R36/38: Irritating to eyes and skin.

Y

N; Dangerous for the environment

R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic

environment.

R29-32: Contact with water liberates toxic gas. 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 GHS08 GHS09

#### · Signal word Danger

#### · Hazard-determining components of labelling:

potassium cyanide potassium dicyanoaurate Kaliumtetracyanonickelat(II)

copper cyanide
• Hazard statements

H300+H310+H330+EUH029+EUH032 Fatal if swallowed, in contact with skin or if inhaled. Contact with

water liberates toxic gas. Contact with acids liberates very toxic gas.

H315 Causes skin irritation.
H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if

inhaled.

H317 May cause an allergic skin reaction.

H350 May cause cancer.

H410 Very toxic to aquatic life with long lasting effects.

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#### · Precautionary statements

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

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.

P320 Specific treatment is urgent (see on this label).

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.

Dangerous compon		
CAS: 7778-53-2	Kaliumphosphat	50-100%
	Xi R36/38	
	♦ Skin Irrit. 2, H315; Eye Irrit. 2, H319	
CAS: 151-50-8	potassium cyanide	10-25%
EINECS: 205-792-3	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	
CAS: 13967-50-5	potassium dicyanoaurate	5-10%
EINECS: 237-748-4		
	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; (1) Skin Irrit. 2, H315	
CAS: 544-92-3	copper cyanide	0.2-5%
EINECS: 208-883-6		0.2-3%
	Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	-
CAS: 14220-17-8	Kaliumtetracyanonickelat(II)	0.2-5%
	<ul> <li>Water-react. 1, H260;</li> <li>Acute Tox. 3, H301;</li> <li>Resp. Sens. 1, H334;</li> <li>Carc. 1B, H350;</li> <li>Skin Sens. 1, H317</li> </ul>	
CAS: 506-61-6	potassium dicyanoargentate	≤ 1%
EINECS: 208-047-0	T+ R26/27/28; N R50/53 R32	
	Acute Tox. 2, H300; Acute Tox. 1, H310; Acute Tox. 2, H330;	1
	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	

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



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### 4 First aid measures

- · 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.

Use a respiratory bag or breathing device.

· 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

Nausea

Unconsciousness

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.

#### **6** Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Avoid formation of dust.

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:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Pick up mechanically.

· Reference to other sections 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: 6.1 B
- · Specific end use(s) No further relevant information available.

## 8 Exposure controls/personal protection

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

 $0.03 \,\mu g/l \,(H2O) \,(CN)$ 

PNEC (Industrie)

- · 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:

Not required.				
151-50-8 potassium cyanic				
WEL Long-term value: 5 n as CN; Sk	EL Long-term value: 5 mg/m³ as CN; Sk			
13967-50-5 potassium dicy	13967-50-5 potassium dicyanoaurate			
WEL Long-term value: 5 m as CN; Sk	WEL Long-term value: 5 mg/m³ as CN; Sk			
544-92-3 copper cyanide	544-92-3 copper cyanide			
WEL Long-term value: 5 m as CN; Sk	WEL Long-term value: 5 mg/m³ as CN; Sk			
· DNELs	· DNELs			
13967-50-5 potassium dicyanoaurate				
Oral DNEL(Com.)longtern	n 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)			
506-61-6 potassium dicyar	506-61-6 potassium dicyanoargentate			
Oral DNEL(Com.)longtern	n 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	· PNECs			
13967-50-5 potassium dicy	anoaurate			

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### 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 P3

Filter P2

#### · Protection of hands:

Plastic gloves



Protective gloves

### · Material of gloves

Chloroprene rubber, CR

Nitrile rubber, NBR

Butyl rubber, BR

Natural rubber, NR

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  $\leq 6$ 

The exact break trough 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

## 9 Physical and chemical properties

- · Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Solid

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		(Contd. of page
Colour:	Various colours	
· Odour:	Characteristic	
pH-value (29 g/l) at 20 °C:	10-11	
Change in condition Melting point/Melting range:		
Boiling point/Boiling range:	Undetermined.	
· Flash point:	Not applicable.	
· Self-igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Density:		
Bulk density at 20 °C:	ca. 750 kg/m³	
Solubility in / Miscibility with water at 20 °C:	ca. 220 g/l	
Solvent content: Organic solvents:	0.0 %	
Solids content: Other information	100.0 % 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 tox	icity:	
· LD/LC50	values	relevant for classification:
151-50-8 լ	potassiu	ım cyanide
Oral	LD50	5 mg/kg (rat)
	LDLO	2.86 mg/kg (human) (RTECS)
13967-50-	5 potas	sium dicyanoaurate
Oral	LD50	29 mg/kg (rat)
Dermal	LD50	100 mg/kg (human) (CN)
Inhalative	LC50	524 mg/kg (10min) (human) (HCN)
544-92-3	copper	cyanide
Oral	LD50	126 mg/kg (rat)
14220-17-	8 Kaliu	mtetracyanonickelat(II)
Oral	LD50	275 mg/kg (mus)
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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: Irritant to skin and mucous membranes.
- · on the eye: Irritating effect.
- · Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

· 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:

Harmful

Irritant

Very toxic

Danger through skin adsorption.

Carcinogenic if inhaled.

## 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)	
	0.083 mg/l (96h) (Lepomis macrochirus (bluegrill)) (CN)	
	0.057 mg/l (96h) (Onchorhynchus mykiss (rainbow trout)) (CN)	
506-6	1-6 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)	
· Persis	tence 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.

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- · Ecotoxical effects:
- · Remark: Very toxic for fish
- · Additional ecological information:
- · General notes:

Also poisonous for fish and plankton in water bodies.

Very 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.

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	UN1588
· UN proper shipping name	
· ADR	1588 CYANIDES, INORGANIC, SOLID, N.O.S.
	(POTASSIUM CYANIDE, potassium dicyanoaurate)
· IMDG	CYANIDES, INORGANIC, SOLID, N.O.S. (POTASSIUM
	CYANIDE, potassium dicyanoaurate), MARINE
	POLLUTANT
· IATA	CYANIDES, INORGANIC, SOLID, N.O.S. (POTASSIUM
	CYANIDE, potassium dicyanoaurate)

- · Transport hazard class(es)
- · ADR



· Class 6.1 (T5) Toxic substances.

· Label 6.1

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#### · IMDG



· Class 6.1 Toxic substances.

· Label 6.1

· IATA



· Class 6.1 Toxic substances.

· Label 6.1

· Packing group

· ADR, IMDG, IATA

· Environmental hazards:

· Special marking (ADR):

· Marine pollutant: Yes

Symbol (fish and tree) Symbol (fish and tree)

· Special precautions for user Warning: Toxic substances.

• Danger code (Kemler): 60

Danger code (Kemler):
 EMS Number:
 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)
 Transport category
 Tunnel restriction code
 500 g
 D/E

· UN "Model Regulation": UN1588, CYANIDES, INORGANIC, SOLID, N.O.S., 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.

# 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

H260 In contact with water releases flammable gases which may ignite spontaneously.

H290 May be corrosive to metals.

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(Contd. of page 10) Fatal if swallowed. H300 Toxic if swallowed. H301 Fatal in contact with skin. H310 Causes skin irritation. H315 May cause an allergic skin reaction. H317 H318 Causes serious eye damage. H319 Causes serious eye irritation. H330 Fatal if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. H334 H350 May cause cancer. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. R15/29 Contact with water liberates toxic, extremely flammable gas. Harmful if swallowed. R22 R26/27/28 Very toxic by inhalation, in contact with skin and if swallowed. Contact with acids liberates very toxic gas. R32 Irritating to eyes and skin. R36/38 R38 Irritating to skin. R41 Risk of serious damage to eyes. May cause sensitisation by inhalation and skin contact. R42/43 R49 May cause cancer by inhalation. 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 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.