

Safety Data Sheet

According to 1907/2006/EC, article 31

Version: 1

Revision: 15.5.2017
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Trade name:

Magic Rhodium

For professional users only

1.2 Relevant identified uses of the substance/mixture and uses advised against

Application of the substance / the preparation Metal surface treatment

Uses advised against of the substance / the preparation all ways of spraying applications
not for private users

1.3 Details of the supplier of the safety data sheet

Manufacturer / Supplier

Gebr. Boley GmbH & Co KG
Julius Hölder Straße 32
D-70597 Stuttgart

Phone: +49 (0) 711 13271-0
Telefax: +49 (0) 711 13271-90
E-Mail: info@boley.de
Website: www.boley.de

Responsible person according directive
(EG) Nr. 1907/2006: Mr. Lutz

1.4 Emergency telephone number

At usual business hours:
Monday – Thursday 8.00 – 12.00 o'clock and 13.00 -
16.00 o'clock
Friday 8.00 – 12.00 o'clock

Phone: +49 (0) 711 13271-0

1.5 Further informations obtainable from

Gebr. Boley GmbH & Co KG, Mr. Lutz, Contact data see above

SECTION 2: Hazards information

2.1 Classification of the product/mixture according to Regulation (EC) No 1272/2006

Regulation (EC) No 1272/2008:

Acute Tox. 2; H300, Acute Tox. 2; H310, Acute Tox. 2; H330, Aquatic acute 1; H400, Aquatic Chronic 1;
H410

2.2 Labelling of the product/mixture according to Regulation (EC) No 1272/2006

Hazard pictograms:



GHS06 GHS09

Signal word: Danger

Hazard statements: H300+H310+H330: Fatal if swallowed, in contact with skin or if inhaled.

H410: Very toxic to aquatic life with long lasting effects.

EUH 032: Contact with acids liberates very toxic gas.

Precautionary statements:

P260: Do not breathe dust/fume/gas/mist/vapours/spray.
 P262: Do not get in eyes, on skin, or on clothing.
 P280: Wear protective gloves/eye protection.
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.
 P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P310: Immediately call a POISON CENTER or doctor/physician.

2.3 Other hazards

Results of PBT- and vPvB assesment
 PBT: not applicable.
 vPvB: not applicable.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterization

Mixture of substances listed below with nonhazardous additions.

3.2 Hazardous ingredients

Stoff:	EINECS:	CAS:	INDEX-No.:	REACH-No.:	Concentration:	Classification: EC 1272/2008(CLP):
Potassiumsilver-cyanide	208-047-0	506-61-6			3 - 10 %	Acute Tox. 2; H300 Acute Tox. 1; H310 Acute Tox. 2; H330 Aquatic Acute 1; H400 Aquatic Chronic. 1; H410
Potassium-cyanide	205-793-3	151-50-8	006-007-00-5		< 3 %	Met. Corr. 1; H290 Acute Tox. 2; H300 Acute Tox. 1; H310 Acute Tox. 2; H330 STOT RE 1; H372 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 EUH032
Potassiumnitrate	231-818-8	7757-79-1			< 3 %	Ox. Sol. 3; H272

(Full text of H-phrases: see section 16.)

3.3 Additional informations

Contains no SVHC substances

SECTION 4: First aid measures

4.1 Description of first aid measures

General informations Before starting work with the product, employees and potential first responders should familiarize themselves with the specific features of the product and the first aid measures.
 Remove the respiratory protection only after removing contaminated clothing.
 Remove any clothing soiled by the product immediately.

After inhalation Ensure supply of fresh air. In case of respiratory arrest or irregular breathing artificial respiration or oxygen respiration and seek medical advice immediately.
 No mouth-to-mouth artificial respiration. Instead, oxygen respiration with a breathing mask. In case of unconsciousness place and transport in stable side position.

After skin contact Remove any clothing soiled by the product immediately.

After eye contact Wash off with plenty of water and soap. Seek medical advice immediately.
 After contact with the eyes, immediately rinse the open eyes 10 to 15 minutes under running water. Remove contact lenses, if possible, and continue rinse.
 Seek medical advice (oculist).

After swallowing Immediately rinse the mouth with water without swallowing the water. Give water to drink in small sips (dilution effect). No administering in case of unconsciousness or convulsions. Do not induce vomiting. Seek medical advice immediately.

Self protection First responders: take care of self-protection

4.2 Most important symptoms and effects, both acute and delayed

Symptoms: Cyanide poisoning
Possible poisoning symptoms: headache, dizziness, nausea, convulsions, unconsciousness, respiratory disturbances, respiratory distress, cardiac arrest.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

5.1 General informations

Extinguishing measures in accordance to the surrounding conditions. Product itself is non flammable. To protect persons and to cool endangered containers using water spray. Remove undamaged containers from the danger zone if possible without risk.

5.2 Extinguishing media:

suitable: Dry powder, waterspary for protection of the surroundings.

Unsuitable: Carbon dioxide (CO₂), Water with full jet

5.3 Special hazards arising from the substance or mixture

In case of fire may form: carbon oxides (CO, CO₂), nitrogen oxides (NO_x), **prussic acid (hydrocyanic acid, HCN)**

Warning: Prussic acid is combustible and can form explosive mixtures with air.

5.4 Advice for firefighters

Protective equipment

Wear full protective suit with self-contained breathing apparatus.

Additional informations

Collect contaminated fire fighting water separately. Do not allow to enter the sewage system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Do not inhale vapors. Wear personal protective equipment. Remove persons to safety. Keep unprotected persons away. Stay on the windward side.

6.2 Environment precautions

Immediately contact authorities in case of penetration into waterways, soil or sewers. Inform competent authorities when large quantities are released.

6.3 Methods and material for containment and cleaning up

6.4 Referenco 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

Advice on safe handling

Keep containers/bottles tightly closed. Open and handle container with care. Ensure good ventilation/exhausting at the workplace. Wear personal protective equipment. Do not breathe vapours/aerosols. Avoid contact with eyes and skin. Do not eat, drink or smoke at work. Observe the usual precautions when handling chemicals.

Technical measures

Ensure good ventilation / exhaustion at the stores and work areas.

Information about fire- and explosion protections

Usual measures for preventive fire protection.

Additional information

None

7.2 Conditions for safe storage including any incompatibilities

Technical measures and conditions

Ensure good ventilation. Keep container tightly closed and store in a cool, well-ventilated place.

Packaging materials

Keep containers/bottles tightly closed. Use original containers/bottles only.

Requirements to be met by storerooms and receptacles

Store in cool, dry conditions. Keep only accessible to qualified persons or their representatives. Observe official regulations on storage and handling of water hazardous substances.

Information about storage in one common storage facility

Keep away from foodstuffs, beverages and feed.

Keep away from flammable substances.

Further information about storage conditions

Never store near acids or acidic substances.

Storage class: 6.1 B toxic substances, non-flammable

7.3 Specific end use(s)

See directions for use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace

Occupational exposure limits:

Substance:	CAS:	Origin:	Occupational exposure limit value	Peak:	Remarks:
Potassiumsilver-cyanide	506-61-6	GESTIS data base	0,01 E mg/m ³ AGW (Germany)	2 (I)	DFG, EU 10
Potassium-cyanide	151-50-8	GESTIS data base	5,0 E mg/m ³ MAK		

Common exposure limits:

Substance:	CAS:	Origin:	Occupational exposure limit value	Peak:	Remarks:

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

DNELs

CAS 151-50-8 Potassiumcyanide

Dermal DNEL (worker) 4,03 mg/kg (Acute-systemic-effects)

Dermal DNEL (worker) 0,14 mg/kg (Long-term-systemic-effects)

Inhalativ DNEL (worker) 12,5 mg/m³ (Acute-systemic-effects)Inhalativ DNEL (worker) 0,94 mg/m³ (Long-term-systemic-effects)**PNECs**

CAS 151-50-8 Potassiumcyanide

PNEC aqua 0,001 mg/l (fresh water)

PNEC aqua 0,001 mg/l (marine water)

PNEC 0,05 mg/l (sewage plant)

PNEC sediment 0,004 mg/kg (fresh water)

PNEC sediment 0,004 mg/kg (marine water)

PNEC 0,007 mg/kg (soil)

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

8.2 Exposure controls

General protective and hygiene measures

Technical measures and the application of suitable work processes should be given priority over the use of personal protective equipment.

The personal protective equipment must be defined depending on the quantities and concentration of hazardous substances in the workplace. (Risk assessment)

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and the end of work. Store protective clothing separately. Avoid contact with eyes and skin. Do not breathe vapours/aerosols.

Personal protective equipment

Minimum standards for protective measures when handling working substances are listed in TRGS 500.

Breathing equipment

Continuously respected workplace exposure limits and other limits respiratory protection normally is not required.

In case of brief exposure or low pollution use breathing filter apparatus. (Face mask according to DIN EN 136) with filter type B(3) or combi-filter ABEK(P2)(according DIN EN 14387:2004+A1:2008). In case of intensive or longer exposure use breathing apparatus that is independent of circulating air (according DIN EN 137).

Protection of hands

Chemical-resistant protective gloves (EN 374)

The glove material has to be impermeable and resistant to the product / the substance / the preparation. Due to missing tests no recommendation to the glove material for the product / the preparation / the chemical mixture can be discharged. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Material of gloves

Material: Nitrile rubber

Minimum layer thickness: ≥ 0,35 mm

Break through time: ≥ 480 min

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

Because the determined breakthrough times according to FIG. EN 374-3 are not performed under practical conditions, we recommend a wearing time of 50% of the maximum breakthrough time.

Eye protection

Tightly fitting safety glasses according DIN EN 166.

Body protection

Protective clothing in accordance with DIN EN 13688 : 2013. Chemical resistant safety shoes or boots according DIN EN 13832-1 : 2006. If skin contact is possible, wear impenetrable protective clothing against this substance according DIN EN 13034:2005.

Protective clothing in accordance with DIN EN 13688 : 2013. Chemical resistant safety shoes or boots according DIN EN 13832-1+2 : 2006.

Environmental exposure controls

see section 7. There are no further action is required.

Consumer exposure control

see section 7. There are no further action is required.

8.3 Exposure scenario

none

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Appearance**

Form: Liquid with sediment
Color: Clear liquid, white sediment
Odour: Low self-odour

Safety relevant basic data

	Parameter	Value	Unit	Remark
Density:	at 20°C	approx. 1,15	g/cm ³	
pH:	undiluted	approx. 12,5		
Melting point / -range:				No data available
Initial boiling point/boiling range				No data available
Flashpoint				No data available
Ignition properties:				No data available
Upper ignition limits				No data available
Upper igniton limits				No data available
Explosiv properties				Product is not explosive.
Upper explosive limits				No data available
Upper explosive limits				No data available
Auto-ignition temperature				No data available
Decomposition temperature				No data available
Oxidising properties				No data available
Vapour pressure				No data available
Vapour density				No data available
Evaporation rate				No data available
Solubility in water				miscible
Partition coefficient				No data available
n-octanol/water				
Viscosity:				No data available
Value of solvents:				
- organic solvents		0,0	%	

9.2 Additional information

No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Reacts with acids (also carbondioxide (CO₂)) or acidic substances by form prussic acid (hydrocyanic acid).

10.2 Chemical Stability

No decomposition under normal conditions.

10.3 Possibility of hazardous reactions

Reacts with acids (also carbondioxide (CO₂)) or acidic substances by form prussic acid (hydrocyanic acid).

10.4 Conditions to avoid

Heating
Contact with acids, acidic substances, carbondioxide (CO₂)

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

In case of fire may form: carbon oxides (CO, CO₂), nitrogen oxides (NO_x), prussic acid (hydrocyanic acid, HCN)

10.7 Additional information

No further relevant information available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Fatal if swallowed, in contact with skin or if inhaled.

Acute Toxicity

Substance:	CAS.:	Toxilogical ngaben
Potassiumsilver-cyanide	506-81-6	Acute Toxicity, oral LD50: 20,9 mg/kg (rat) Origin: Gestis database
Potassiumcyanide	151-50-8	Acute Toxicity, oral LD50: 5 mg/kg (rat) Origin: Gestis database Acute Toxicity, oral LDlo: 2,86 mg/kg (human) Origin: External Data Sheet Acute Toxicity, dermal LD50: 14,3-33,3 mg/kg (rabbit) Origin: External Data Sheet
Potassiumnitrate	7757-79-1	Acute Toxicity, oral LD50: 3750 mg/kg (rat) Origin: Gestis database

11.2 Primary irritant effect

On the skin

Due to the available data the criteria for the classification are not fulfilled.

On the eye

Due to the available data the criteria for the classification are not fulfilled.

After inhalation

Due to the available data the criteria for the classification are not fulfilled.

11.3 Sensitisation

Due to the available data the criteria for the classification are not fulfilled.

11.4 Toxicity at repeated exposure

STOT-single exposure: no data available

STOT-repeated exposure: no data available

11.5 CMR-effects

Carcinogenity

No effects known.

Mutagenicity

No effects known.

Reproductiv toxicity

No effects known.

11.6 General remarks

Even in case of suspicion of poisoning, medical examination is necessary.

Practical experience

There is no information available.

Other observations

There is no information available.

Additional information

none

SECTION 12: Ecological information**12.1 Information on toxicological effects**

No data available for the mixture.

Ecotoxicity

Substance:	CAS:	Ecotoxicity
Potassiumsilver-cyanide	506-81-6	Acute toxicity fish: LC50: 0,083 mg/l/96 h [Lepomis macrochirus] Acute toxicity daphnia EC50: 0,041 mg/l/48 h [Daphnia magna.] Toxicity algae IC 50: 0,03 mg/l/8d [Sc. quadricauda]
Potassiumcyanide	151-50-8	Acute toxicity fish LC50: 0,45 mg/l/96 h [Lepomis macrochirus] Acute toxicity daphnia EC50: 2,0 mg/l/48 h [Daphnia magna.] Toxicity algae IC 50: 0,03 mg/l/8d [Sc. quadricauda]
Potassiumnitrate	7757-79-1	Acute toxicity to fish LC50: 190 mg/l/96 h Acute Toxicity LC50: 490 mg/l/48 h crustaceans

Datas are from the Gestis database or external data sheets.

12.2 Persistence and degradability

Methods of the determination of biodegradability are not applicable on inorganic substances.

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

12.6 Other advers effects

Very toxic to aquatic to aquatic life with long lasting effects. Very toxic for fish.

12.7 Additional ecological information

Do not allow product to reach water bodies, sewage system or soil/subsoil. Also not in small quantities.

12.8 Additional information

Water hazard class 3 (German Regulation)(Self-assessment): extremely hazardous for water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Chemicals must be disposed of in compliance with the respective national regulations.
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Waste disposal key number

Since 01.01.1999 the waste code numbers have not only been product-related but are also essentially application-related.

The allocation of the waste code numbers is carried out according to the European Waste Catalog in a sector / process-specific manner

11 00 00 Wastes from chemical surface treatment and coating of metals and other materials; Non-ferrous hydrometallurgy

11 01 00 Wastes from chemical surface treatment and coating of metals and other materials (for example electroplating, galvanizing, pickling, etching, phosphating, alkaline degreasing and anodisation)

11 01 98 * other wastes containing dangerous substances

Uncleaned packagings

Disposal must be made according to official regulations. Packagings that may not be cleansed are to be disposed in the same manner as the product.

SECTION 14: Transport informations

14.1 UN-Number

ADR, IMDG, IATA UN 1935

14.2 Proper shipping name

ADR: 1935 CYANIDE, SOLUTION, N.O.S. (POTASSIUMSILVERCYANID, POTASSIUMCYANIDE), ENVIRONMENTALLY HAZARDOUS

IMDG: CYANIDE, SOLUTION, N.O.S. (POTASSIUMSILVERCYANID, POTASSIUMCYANIDE), MARINE POLLUTANT

IATA: CYANIDE, SOLUTION, N.O.S. (POTASSIUMSILVERCYANID, POTASSIUMCYANIDE)

14.3 Transport hazard class(es)

ADR:

Class: 6.1 (T4) Toxic substance

Label: 6.1

IMDG, IATA:

Class: 6.1 Toxic substance

Label: 6.1

14.4 Packaging group

ADR, IMDG, IATA: II

14.5 Environmental hazards

Product contains environmental hazards: Potassiumsilbercyanide, Potassiumcyanide

Marine pollutant: yes - Symbol (Fish and tree)

Special marking (ADR): Symbol (Fish and tree)

14.6 Special precautions for user

Warning: toxic substances

Danger code (Kemler): 60

EMS-Number: F-E, S-A

Segregation groups: Cyanides

14.7 Transport in bulk according to Annex II of Marpol 73/78 and the IBC Code

Not applicable

14.8 Additional information

ADR:

Limited quantities (LQ): 100 ml

Excepted quantities (EQ): Code E4 Maximum quantity per inner packaging: 1 ml
Maximum quantity per outer packaging: 300 ml

IMDG:

Limited quantities (LQ): 100 ml

Excepted quantities (EQ): Code: E4 Maximum net quantity per inner packaging: 1 ml
Maximum net quantity per outer packaging: 300 ml

UN "Model Regulation": UN1935 CYANIDE, SOLUTION, N.O.S.
(POTASSIUMSILVERCYANID,POTASSIUMCYANIDE),
ENVIROMENTALLY HAZARDOUS, 6.1, II

SECTION 15: Regulatory information

15.1 Labeling

Hazardous component (s) for labeling

Potassiumsilbercyanide, Potassiumcyanide

Special instructions

For professional users only

15.2 Safety, health and enviromental regulations/legislation specific for the substance or mixture

EU-Regulations

1999/13/EG on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations

Not relevant

2037/2000/EG on Substances which damage the ozone layer

Not relevant

850/2004/EG on Persistent Organic Pollutants

Not relevant

689/2008/EG on the export and import of dangerous chemicals

Not relevant

648/2004/EG on detergents

Not relevant

1907/2006/EG - Restrictions according title VIII of Regulation

Not relevant

National regulations

Must be observed

Storage class according VCI (German guideline)

Class 6.1 toxic substances, non flammable

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

none

15.2 Information about limitation of use

Employment restrictions concerning young persons must be observed.

Employment restrictions concerning pregnant and nursing women must be observed.

Restricted to professional users.

15.3 Chemical Safety Assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other informations

Complete wording of hazard statements and risk phrases (H-phrases) mentioned in section 3.

These phrases refer to the constituents. The labelling for this product is stated in section 2.

H272 May intensify fire; oxidiser.

H290 May be corrosive to metals.

H300 Fatal if swallowed.

H310 Fatal in contact with skin.

H330 Fatal if inhaled.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

EUH032 Contact with acids liberates toxic gas.

16.2 Training advice

Ensure that employees observe the risk of poisoning.

Users of breathing apparatus must be trained.

16.3 Recommended restriction(s) of application

See section 1.

16.4 Additional information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

16.5 Replacement documentaion

First issue (Version 1)

16.6 Origin of datas

Information taken from reference works and literature as well as the instructions of the supplier.

16.7 Departement issuing MSDS

See section 1.5

16.8 Abbreviations and acronymes

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

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

CLP: Classification, Labelling and Packaging (Regulation (EC) No. 1272/2008)
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINECS: European List of Notified Chemical Substances
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
VCI: Verband der chemischen Industrie (German Chemical Industry Association, Germany)
VbF: Verordnung über brennbare Flüssigkeiten (Regulations for flammable liquids, Germany)
TRbF: Technische Regeln für brennbare Flüssigkeiten (Technical regulations for flammable liquids)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted no-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
SVHC: Substance of Very High Concern
PBT: Persistent, Bioakkumulierend, Toxisch
vPvB: very Persistent and very Bioaccumulative
Met. Corr. 1: Corrosive to metals, Hazard Category 1
Ox. Sol. 3: Oxidising Solids, Hazard Category 3
Acute Tox. 1: Acute toxicity, Hazard Category 1
Acute Tox. 2: Acute toxicity, Hazard Category 2
Acute Tox. 3: Acute toxicity, Hazard Category 3
Acute Tox. 4: Acute toxicity, Hazard Category 4
STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1
Aquatic Acute 1: Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment – Chronic Hazard, Category 1

* Data compared to the previous issue altered.
