

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

Printing date 09.11.2018

Version number 3

Revision: 09.11.2018

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

- **1.1 Product identifier**
- **Trade name:** Diammindinitritopalladium(II) Lösung 150 g Pd/l; Diammindinitritopalladium(II) Lösung 100 g Pd/l
Diamminedinitritopalladium(II) solution with 150 g Pd/l; Diamminedinitritopalladium(II) solution with 100 g Pd/l
- **Article number:** 4041310102, 4041310105
- **CAS Number:**
14852-83-6
- **EC number:**
238-918-0
- **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**



GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

STOT SE 3 H335 May cause respiratory irritation.

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



GHS05



GHS07

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

(Contd. on page 2)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 09.11.2018

Version number 3

Revision: 09.11.2018

Trade name: Diammindinitritopalladium(II) Lösung 150 g Pd/l; Diammindinitritopalladium(II) Lösung 100 g Pd/l
Diamminedinitritopalladium(II) solution with 150 g Pd/l; Diamminedinitritopalladium(II) solution with 100 g Pd/l

diamminebis(nitrito-N)palladium

(Contd. of page 1)

- **Hazard statements**

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 IF ON SKIN (or hair): 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.

P307+P311 IF exposed: Call a POISON CENTER or doctor/physician.

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

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**

- **CAS No. Description**

14852-83-6 diamminebis(nitrito-N)palladium



- **Identification number(s)**

- **EC number:** 238-918-0

- **Dangerous components:**

CAS: 1336-21-6

ammonia

 Skin Corr. 1B, H314;
  Aquatic Acute 1, H400

≤10%

EINECS: 215-647-6

SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

- **After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.

- **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **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:**

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 09.11.2018

Version number 3

Revision: 09.11.2018

Trade name: Diammindinitritopalladium(II) Lösung 150 g Pd/l; Diammindinitritopalladium(II) Lösung 100 g Pd/l
Diamminedinitritopalladium(II) solution with 150 g Pd/l; Diamminedinitritopalladium(II) solution with 100 g Pd/l

- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

(Contd. of page 2)

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:** 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).
Use neutralising agent.
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.
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**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **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:** Not required.
- **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.
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.

(Contd. on page 4)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 09.11.2018

Version number 3

Revision: 09.11.2018

Trade name: Diammindinitritopalladium(II) Lösung 150 g Pd/l; Diammindinitritopalladium(II) Lösung 100 g Pd/l
Diamminedinitritopalladium(II) solution with 150 g Pd/l; Diamminedinitritopalladium(II) solution with 100 g Pd/l

(Contd. of page 3)

· **Protection of hands:**



Protective gloves

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 can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

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.

· **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.

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

| | |
|-------------------------|-----------------|
| Form: | Liquid |
| Colour: | Yellow |
| Odour: | Characteristic |
| Odour threshold: | Not determined. |

· **pH-value:** Alkaline

· **Change in condition**

| | |
|---|---------------|
| Melting point/freezing point: | Undetermined. |
| Initial boiling point and boiling range: | Undetermined. |

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Not applicable.

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Not determined.

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

· **Explosion limits:**

| | |
|---------------|-----------------|
| Lower: | Not determined. |
| Upper: | Not determined. |

· **Vapour pressure at 20 °C:** 23 hPa

| | |
|--------------------------|--------------------------|
| Density at 20 °C: | 1.1805 g/cm ³ |
| Relative density | Not determined. |
| Vapour density | Not determined. |

(Contd. on page 5)

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

Printing date 09.11.2018

Version number 3

Revision: 09.11.2018

Trade name: Diammindinitritopalladium(II) Lösung 150 g Pd/l; Diammindinitritopalladium(II) Lösung 100 g Pd/l
Diamminedinitritopalladium(II) solution with 150 g Pd/l; Diamminedinitritopalladium(II) solution with 100 g Pd/l

(Contd. of page 4)

| | |
|--|--|
| · Evaporation rate | Not determined. |
| · Solubility in / Miscibility with water: | Not miscible or difficult to mix. |
| · Partition coefficient: n-octanol/water: | Not determined. |
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| Organic solvents: | 0.0 % |
| Water: | 40.0 % |
| · 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** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

- **Acute toxicity**
Harmful if inhaled.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

| | | |
|------------|----------|-------------------|
| Oral | LD50 | 3,500 mg/kg (rat) |
| Inhalative | LC50/4 h | 14 mg/l (rat) |

1336-21-6 ammonia

| | | |
|------------|----------|-----------------|
| Oral | LD50 | 350 mg/kg (rat) |
| Inhalative | LC50/4 h | 1.4 mg/l (rat) |

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **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** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.

(Contd. on page 6)

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

Printing date 09.11.2018

Version number 3

Revision: 09.11.2018

**Trade name: Diammindinitritopalladium(II) Lösung 150 g Pd/l; Diammindinitritopalladium(II) Lösung 100 g Pd/l
Diamminedinitritopalladium(II) solution with 150 g Pd/l; Diamminedinitritopalladium(II) solution with 100 g Pd/l**

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

(Contd. of page 5)

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

1336-21-6 ammonia

LC50 0.53 mg/l (96h) (Onchorhynchus mykiss (rainbow trout))

EC50 24 mg/l (48h) (Daphnia magna (water flea))

EC50 2 mg/l (5min) (Photobacterium phosphoreum)

· **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.

· **Additional ecological information:**

· **General notes:**

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even 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 not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

· **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN2672

· **14.2 UN proper shipping name**

· **ADR**

2672 AMMONIA SOLUTION

· **IMDG, IATA**

AMMONIA SOLUTION

(Contd. on page 7)

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

Printing date 09.11.2018

Version number 3

Revision: 09.11.2018

**Trade name: Diammindinitritopalladium(II) Lösung 150 g Pd/l; Diammindinitritopalladium(II) Lösung 100 g Pd/l
Diamminedinitritopalladium(II) solution with 150 g Pd/l; Diamminedinitritopalladium(II) solution with 100 g Pd/l**

(Contd. of page 6)

· 14.3 Transport hazard class(es)

· ADR



· Class 8 (C5) Corrosive substances.
· Label 8

· IMDG, IATA



· Class 8 Corrosive substances.
· Label 8

· 14.4 Packing group

· ADR, IMDG, IATA III

· 14.5 Environmental hazards: Not applicable.

· 14.6 Special precautions for user

· Warning: Corrosive substances.
· Danger code (Kemler): 80
· EMS Number: F-A,S-B
· Segregation groups Alkalis
· Stowage Category A
· Stowage Code SW2 Clear of living quarters.
SW3 Shall be transported under temperature control.
SG35 Stow "separated from" acids.
· Segregation Code

· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable.

· Transport/Additional information:

· ADR

· Limited quantities (LQ) 5L
· Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· Transport category 3

· Tunnel restriction code E

· UN "Model Regulation": UN 2672 AMMONIA SOLUTION, 8, 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 Substance is not listed.

· REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 09.11.2018

Version number 3

Revision: 09.11.2018

Trade name: Diammindinitritopalladium(II) Lösung 150 g Pd/l; Diammindinitritopalladium(II) Lösung 100 g Pd/l
Diamminedinitritopalladium(II) solution with 150 g Pd/l; Diamminedinitritopalladium(II) solution with 100 g Pd/l

(Contd. of page 7)

- **National regulations:**
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **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**

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

- **Abbreviations and acronyms:**

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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

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

GB