

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 04/01/2010

Reviewed on 04/01/2010

1 Identification of substance

- **Product details**

- **Trade name:** Stahlgoldlot Nr. 80 W-2

- **Application of the substance / the preparation**

Precious metall alloy for dental technology

Hard solder

- **Manufacturer/Supplier:**

Wieland Dental + Technik GmbH & Co.KG

Schwenninger Str. 13

75179 Pforzheim

Telefon + 49 (07231)-37050, Telefax + 49 (07231)-357959

- **Information department:**

Abteilung Umweltschutz

Marcus.Mueller@wieland-dental.de

- **Emergency information:**

+49 (07231)-37050




(Be kindly advised that this number can only be contacted at usual office hours.)

2 Composition/Data on components

- **Chemical characterization**

- **Description:** Metal in compact form.

- **Dangerous components:**

| | | | |
|-----------|--------|---|-------|
| 7440-02-0 | nickel | Warning:  3.6/2;  3.4.S/1 | 5-10% |
| 7440-48-4 | cobalt | Danger:  3.4.R/1, 3.4.S/1 4.1.C/4 | 1-5% |
| 7440-22-4 | silver | | ≤ 1% |

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

3 Hazards identification

- **Hazard description:**



Toxic

- **Information pertaining to particular dangers for man and environment:**

The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Limited evidence of a carcinogenic effect.

May cause sensitization by inhalation and skin contact.

Toxic: danger of serious damage to health by prolonged exposure through inhalation.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **NFPA ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 0

- **WHMIS-ratings (scale 0 - 4)**



Health = *3

Fire = 0

Reactivity = 0

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· GHS label elements

**Danger**

- 3.4/1 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- 3.4/1 - May cause an allergic skin reaction.
- 3.6/2 - Suspected of causing cancer.

· Prevention:

- In case of inadequate ventilation wear respiratory protection.
- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Wear protective gloves/protective clothing/eye protection/face protection.

· Response:

- Specific treatment (see on this label).

· Storage:

- Store locked up.

· Disposal:

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

- **Additional information:** In compact form is this alloy not dangerous for human or the aquatic environment.

4 First aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** After contact with the molten product, cool rapidly with cold water.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Seek immediate medical advice.

5 Fire fighting measures

- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Person-related safety precautions:** Not required.
- **Measures for environmental protection:** No special measures required.
- **Measures for cleaning/collecting:**
Dispose contaminated material as waste according to item 13.
Pick up mechanically.

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Extractor required on object.
Prevent formation of dust.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.

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· **Further information about storage conditions:** None.

8 Exposure controls and personal protection

· **Additional information about design of technical systems:** No further data; see item 7.· **Components with limit values that require monitoring at the workplace:**

7440-02-0 nickel

| | |
|-----|--|
| PEL | 1 mg/m ³ |
| REL | 0.015 mg/m ³ Elemental |
| TLV | 1.5* mg/m ³ elemental;*as inhalable fraction |

7440-48-4 cobalt

| | |
|-----|--|
| PEL | 0.1* mg/m ³ as Co; *for metal dust & fume, as Co |
| REL | 0.05* mg/m ³ inorg. compds.: *metal dust & fume, as Co |
| TLV | 0.02 mg/m ³ as Co; BEI |

7440-22-4 silver

| | |
|-----|--------------------------------|
| PEL | 0.01 mg/m ³ |
| REL | 0.01 mg/m ³ |
| TLV | 0.1 mg/m ³ metal |

· **Additional information:** The lists that were valid during the creation were used as basis.· **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.

· **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.· **Protection of hands:**

Protective gloves

· **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. 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 exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:** Safety glasses

9 Physical and chemical properties

· **General Information**

| | |
|---------------|---------------------------------|
| Form: | Solid Solid in various forms |
| Color: | White |

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| | |
|--|---|
| Odor: | Odorless |
| · Change in condition | |
| Melting point/Melting range: | 800-860°C (1472-1580°F) |
| Boiling point/Boiling range: | Undetermined. |
| · Flash point: | Not applicable. |
| · Auto igniting: | Product is not selfigniting. |
| · Danger of explosion: | Product does not present an explosion hazard. |
| · Density at 20°C (68°F): | 15.23 g/cm ³ |
| · Solubility in / Miscibility with Water: | Insoluble. |
| · Solvent content: | |
| · Solids content: | 100.0 % |

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** Stable up to melting point.
- **Dangerous reactions** Reacts with strong acids.
- **Dangerous products of decomposition:** Toxic metal oxide smoke

11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

7440-48-4 cobalt

| | | | |
|------|------|------------|---------------|
| Oral | LD50 | 6170 mg/kg | mg/kg (Ratte) |
|------|------|------------|---------------|

- **Primary irritant effect:**

- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.

- **Sensitization:**

Sensitization possible through inhalation.
Sensitization possible through skin contact.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful
Irritant

12 Ecological information

- **General notes:** Generally not hazardous for water

13 Disposal considerations

- **Product:**
- **Recommendation:** Contact manufacturer for recycling information.
- **Uncleaned packagings:**
- **Recommendation:** Packaging can be reused or recycled after cleaning.

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

14 Transport information

- **DOT regulations:**
- **Hazard class:** -
- **Land transport ADR/RID (cross-border):**
- **ADR/RID class:** -
- **Maritime transport IMDG:**
- **IMDG Class:** -
- **Marine pollutant:** No
- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** -
- **UN "Model Regulation":** -

15 Regulations

· Sara

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

7440-02-0 nickel

7440-48-4 cobalt

7440-22-4 silver

· **TSCA (Toxic Substances Control Act):**

7440-57-5 Gold

7440-02-0 nickel

7440-48-4 cobalt

7440-22-4 silver

· **Proposition 65**· **Chemicals known to cause cancer:**

7440-02-0 nickel

7440-48-4 cobalt

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogeny categories**· **EPA (Environmental Protection Agency)**

7440-66-6 zinc (in compact form)

II

7440-22-4 silver

D

· **IARC (International Agency for Research on Cancer)**

7440-02-0 nickel

2B

7440-48-4 cobalt

2B, 2A

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| | | |
|---|--------|----|
| · NTP (National Toxicology Program) | | |
| 7440-02-0 | nickel | R |
| · TLV (Threshold Limit Value established by ACGIH) | | |
| 7440-02-0 | nickel | A5 |
| 7440-48-4 | cobalt | A3 |
| · MAK (German Maximum Workplace Concentration) | | |
| 7440-02-0 | nickel | 1 |
| 7440-48-4 | cobalt | 2 |
| · NIOSH-Ca (National Institute for Occupational Safety and Health) | | |
| 7440-02-0 | nickel | |
| · OSHA-Ca (Occupational Safety & Health Administration) | | |
| None of the ingredients is listed. | | |

· Product related hazard informations:

The substance is not subject to classification according to the sources of literature known to us. Although this product is not subject to identification regulations, we recommend that the safety suggestions are observed.
Observe the general safety regulations when handling chemicals.

· Hazard symbols:

Toxic

· Hazard-determining components of labelling:nickel
cobalt**· Risk phrases:**

Limited evidence of a carcinogenic effect.
May cause sensitization by inhalation and skin contact.
Toxic: danger of serious damage to health by prolonged exposure through inhalation.

· Safety phrases:

When using do not eat or drink.
Do not breathe dust.
Wear suitable protective clothing, gloves and eye/face protection.
In case of accident or if you feel unwell, seek medical advice immediately.
This material and its container must be disposed of as hazardous waste.

· National regulations:**· Water hazard class:** Generally not hazardous for water.

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.

· Department issuing MSDS: Abteilung Umweltschutz**· Contact:** Herr Marcus Müller**· 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)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
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)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals

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ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

USA