

# EU – Safety Data Sheet



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Printing date: 14.02.2012

According to 1907/2006 (REACH)

Date of issue: 21.12.2011

## Laser welding wire

### 1. Identification of the substance / Preparation and Company:

Identification of the substance or preparation:

Commercial product name: Laser welding wire

Company / Manufacturer: ERNST HINRICHS GmbH  
Borsigstr. 1  
D - 38644 Goslar  
0 53 21 / 5 06 24  
0 53 21 / 5 08 81  
info@hinrichs-dental.de / www.hinrichs-dental.de

### 2. Composition / Information on Ingredients:

Composition	CAS-no.	Symbol(s)	R-phrases(s)	Standard	Tolerance
Cobalt (Co)	7440-48-4	Xn	R 42/43, R53	65.3 wt. %	2.0
Chromium (Cr)	7440-47-3	-		28.0 wt. %	2.0
Molybdenum (Mo)	7439-98-7	-		5.5 wt. %	1.0
Other elements < 1 %	Si, Mn.				

The final product is an alloy; the different components are not present as the individual element.

### 3. Hazards Identification:

3.1 Hazard identification: -  
CLP (EU-GHS) Annex VI: -  
Signalword : -

Danger	Finished product	Fumes while melting	Dust while processing
Inhalation	n. a.	Lung damage	Lung damage
Skin	None	Burns	Irritation
Eyes	None	Burns	Irritation
Ingestion	None	Burns	None

Carcinogenicity: Dental alloys are not listed as carcinogen. Cobalt may cause cancer by repeated or prolonged inhalation of dust or vapours.

Medical conditions aggravated by exposure: Pre-existing respiratory and skin disease.

### 4. First aid measures:

For dust and fumes:

- 4.1 After inhalation: Fresh air. Vapours/fumes/dust: cough, sneezing, tears. Repeated or prolonged exposure: possible discomfort: gastrointestinal complaints, difficulty in breathing, drop in blood pressure, cramps and fever. Symptoms may occur with delay. In case of persistent discomfort: consult a physician.
- 4.2 After skin contact: Wash off immediately with soap and plenty of water.
- 4.3 After eye contact: Rinse thoroughly with plenty of water keeping eye lid open. In case of persistent discomfort, consult an ophthalmologist.
- 4.4 After swallowing: Consult a physician.
- 4.5 Notes to physician: In case of repeated or prolonged exposure fever induced by metal vapours/fumes/dust is possible. Cobalt: gastrointestinal symptoms, skin reddening, drop in blood pressure, cramps cyanosis. Treatment of symptoms, after absorbing larger amounts of substance: acceleration of the gastrointestinal tract.



**Laser welding wire**

**5. Fire Fighting measures:**

This product is fire and explosion resistant, no special measures required.

**6. Accidental release measures:**

- |     |                              |  |
|-----|------------------------------|--|
| 6.1 | Personal safety precautions: | Wear approved respirators and protective clothing.   |
| 6.2 | Environmental precautions:   | No special precautions.  |
| 6.3 | Methods for cleaning up:     | Remove dust by vacuuming or wet sweeping to prevent powdering in the air. Use containerized disposal. No special precautions are required for bulk (solid) shapes, such as wire. |
| 6.4 | Evacuation procedures:       | N/A  |
| 6.5 | Reporting requirements:      | N/A  |

**7. Handling and Storage:**

- |     |                       |   |
|-----|-----------------------|---|
| 7.1 | Save handling advice: | When melting, soldering, polishing and grinding: use adequate local and general ventilation. Do not breathe dusts and vapours. No particular measures required if used correctly. When dust or vapour is released, wear protective equipment. |
| 7.2 | Storage:              | Store in a non-corrosive surrounding.   |
| 7.3 | Shelf life:           | Dental alloys have an unlimited shelf life.   |

**8. Exposure controls / Personal protection:**

- |                             |   |   |                         |                        |                           |                       |                             |                      |
|-----------------------------|---|---|-------------------------|------------------------|---------------------------|-----------------------|-----------------------------|----------------------|
| 8.1                         | Personal protective equipment when melting, grinding, polishing or soldering: |   |                         |                        |                           |                       |                             |                      |
|                             | Threshold limit value:  | <table border="0"> <tr> <td>Cobalt (fumes and dust)</td> <td>0.02 mg/m<sup>3</sup></td> </tr> <tr> <td>Chromium (fumes and dust)</td> <td>0.5 mg/m<sup>3</sup></td> </tr> <tr> <td>Molybdenum (fumes and dust)</td> <td>10 mg/m<sup>3</sup></td> </tr> </table> | Cobalt (fumes and dust) | 0.02 mg/m <sup>3</sup> | Chromium (fumes and dust) | 0.5 mg/m <sup>3</sup> | Molybdenum (fumes and dust) | 10 mg/m <sup>3</sup> |
| Cobalt (fumes and dust)     | 0.02 mg/m <sup>3</sup>  |   |                         |                        |                           |                       |                             |                      |
| Chromium (fumes and dust)   | 0.5 mg/m <sup>3</sup>   |   |                         |                        |                           |                       |                             |                      |
| Molybdenum (fumes and dust) | 10 mg/m <sup>3</sup>  |   |                         |                        |                           |                       |                             |                      |
| 8.2                         | General recommendation:   | General and local ventilation and exhaust filtration should be employed.  |                         |                        |                           |                       |                             |                      |
|                             | Respiratory protection:   | Use dust mask P1.   |                         |                        |                           |                       |                             |                      |
|                             | Eye protection:   | Wear safety glasses, with side protection.  |                         |                        |                           |                       |                             |                      |
|                             | Hand, skin and body protection:   | Wear lightweight protective clothing and gloves.  |                         |                        |                           |                       |                             |                      |
|                             | Hygiene measures:   | Wash face and/or hands before break and end of work. Do not eat, drink or smoke during processing. If the limits at the workplace are exceeded and/or larger amount is released (leakage, spilling, dust) the indicated respiratory protection should be used.  |                         |                        |                           |                       |                             |                      |

**9. Physical and chemical properties:**

- |     |                                |                                      |
|-----|--------------------------------|--------------------------------------|
| 9.1 | Form:                          | Solid                                |
|     | Colour:                        | White                                |
|     | Odour:                         | None                                 |
|     | Melting point / Melting range: | Ca. 1300 - 1370°C - Tolerance 10     |
|     | Density 20°C:                  | 8.3 g/m <sup>3</sup> - Tolerance 0.3 |
|     | Solubility in water:           | Insoluble in water.                  |

**10. Stability and Reactivity:**

- |      |                                   |   |
|------|-----------------------------------|---|
| 10.1 | Stability:                        | Stable.   |
| 10.2 | Conditions to avoid:              | None.   |
| 10.3 | Materials to avoid:               | Strong acids, strong oxidizing agents.  |
| 10.4 | Hazardous decomposition products: | At temperatures > 400°C the alloy oxidizes, but is stable.<br>At temperatures > 1475°C the alloy may produce hazardous fumes. |
| 10.5 | Shelf life:                       | Dental alloys have an unlimited shelf life.   |

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### 11. Toxicological Information:

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|-----------------------|---|
| 11.1 Acute toxicity:  | No dangerous reactions are known to occur when handled and stored correctly.  |
| 11.2 Chronic effects: | May cause sensitization by inhalation of dust and vapours. Cobalt may cause cancer by repeated or prolonged inhalation of dust and vapours. |

### 12. Ecological Information:

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- |                                     |  |
|-------------------------------------|--|
| 12.1 Persistence and degradability: | Inert material.  |
| 12.2 Water toxicity:                | Not soluble in water.                                      |
| 12.3 Ecotoxicity effects:           | When handled properly, no ecological effects are expected. |

### 13. Disposal Considerations:

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- |                           |   |
|---------------------------|---|
| 13.1 Product:             | Collect and send to accredited metal recycler. Can be used after re-conditioning.     |
| 13.2 Uncleaned packaging: | Disposal according to local authority regulations. Can be used after re-conditioning. |

### 14. Transport Information:

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- |  |
|--|
| 14.1 This product is not subject to transport regulations. |
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### 15. Regulatory Information:

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Labelling according to relevant EU-directives:

- |                  |   |
|------------------|---|
| 15.1 Symbol:     | - |
| 15.2 Signalword: | - |
| 15.3 H-phrases:  | - |
| 15.4 P-phrases:  | - |

### 16. Further Information:

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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.

Symbol: Xn Harmful

R-phrases: R 42/43 - May cause sensitization by inhalation and skin contact.

R 53 - May cause long-term adverse effects in the aquatic environment.