

**Trade name:** Non-precious solders (REF 52622)

**Current version :** 3.0.1, issued: 08.08.2017

**Replaced version:** 3.0.0, issued: 13.06.2017

**Region:** GB

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

### 1.1 Product identifier

**Trade name**

**Non-precious solders (REF 52622)**

**Wirobond solder**

**Wiron solder**

**Cobalt chrome solder**

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Relevant identified uses of the substance or mixture**

Manufacturing of dental prosthesis in a dental laboratory

**Uses advised against**

No data available.

### 1.3 Details of the supplier of the safety data sheet

**Address**

BEGO Bremer Goldschlägerei

Wilh. Herbst GmbH & Co. KG

Wilhelm-Herbst-Str. 1

28359 Bremen

Telephone no. +49/ 421/ 2028 – 0

Fax no. +49/ 421/ 2028 – 115

e-mail msds@bego.com

**Information provided by / telephone**

Research & Development Department - Materials, alloys and ceramics; +49/ 421/ 2028 – 130 (Chief Development Officer alloys)

**Advice on Safety Data Sheet**

msds@bego.com

### 1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**

Aquatic Chronic 4; H413

Carc. 2; H351

Resp. Sens. 1; H334

Skin Sens. 1; H317

STOT RE 1; H372i

**Classification information**

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

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## 2.2 Label elements

### Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

#### Hazard pictograms



GHS08

#### Signal word

Danger

#### Hazardous component(s) to be indicated on label:

nickel  
cobalt

#### Hazard statement(s)

H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H351	Suspected of causing cancer
H372i	Causes damage to organs through prolonged or repeated exposure if inhaled.
H413	May cause long lasting harmful effects to aquatic life.

#### Precautionary statement(s)

P260	Do not breathe dust.
P281	Use personal protective equipment as required.
P285	In case of inadequate ventilation wear respiratory protection.
P304+P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

#### Labelling information

In the form in which it is marketed, the product causes no danger to health for humans through inhalation, swallowing or contact with the skin. There is therefore no obligation to label the product in accordance with:  
- regulation 1272/2008 (CLP: annex I; 1.3.4.: "Metals in massive form, alloys, mixtures containing polymers, mixtures containing elastomers).

## 2.3 Other hazards

If the product form in the as-supplied state is changed through further processing (e.g. through grinding, polishing, electrical discharge machining, welding or melting) and dust or vapours are produced, there may be danger from hazardous components in the product (see information in chapter 3).

PBT assessment  
No data available.

vPvB assessment  
No data available.

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Not applicable. The product is not a substance.

**3.2 Mixtures****Hazardous ingredients**

No	Substance name	Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration %
1	<b>nickel</b>		
	7440-02-0 231-111-4 028-002-00-7 -	Carc. 2; H351 Skin Sens. 1; H317 STOT RE 1; H372**	< 70.00 %-b.w.
2	<b>cobalt</b>		
	7440-48-4 231-158-0 027-001-00-9 -	Aquatic Chronic 4; H413 Resp. Sens. 1; H334 Skin Sens. 1; H317	< 70.00 %-b.w.
3	<b>chromium</b>		
	7440-47-3 231-157-5 - -	-	> 10.00 - < 30.00 %-b.w.
4	<b>SILICON</b>		
	7440-21-3 231-130-8 - -	-	< 5.00 %-b.w.

Full Text for all H-phrases and EUH-phrases: pls. see section 16

(\*, \*\*, \*\*\*, \*\*\*\*) Detailed explanation pls. refer to CLP regulation No. 1272/2008, annex VI, 1.2

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
1	S, 7	-	-	-

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

**SECTION 4: First aid measures****4.1 Description of first aid measures****General information**

In case of allergic symptoms, especially respiratory tract related, seek medical help immediately.

**After inhalation**

Ensure supply of fresh air. Remove affected person from the immediate area. When vapours are intensively inhaled, seek medical help immediately.

**After skin contact**

Wash off immediately with soap and water.

**After eye contact**

Remove contact lenses, irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart and seek medical advice.

**After ingestion**

Call a doctor immediately.

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

No data available.

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available.

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media**

Metal fire powders; Sand

**Unsuitable extinguishing media**

Water; Foam; Carbon dioxide; Dry chemicals

### 5.2 Special hazards arising from the substance or mixture

No data available.

### 5.3 Advice for firefighters

Use self-contained breathing apparatus. Adapt extinguisher and fire-fighting measures to fire in the environment. Wear protective clothing.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel**

Ensure adequate ventilation. Do not inhale vapours. Avoid dust formation. Refer to protective measures listed in sections 7 and 8.

**For emergency responders**

No data available. Personal protective equipment (PPE) - see Section 8.

### 6.2 Environmental precautions

Collect contaminated water / firefighting water separately. Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

### 6.3 Methods and material for containment and cleaning up

Take up mechanically. Avoid raising dust. When picked up, treat material as prescribed under heading "Disposal considerations".

### 6.4 Reference to other sections

No data available.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

**Advice on safe handling**

Provide good ventilation at the work area (local exhaust ventilation, if necessary).

**General protective and hygiene measures**

Wash hands before breaks and after work. Do not eat, drink or smoke during work time. Remove soiled or soaked clothing immediately. Keep away from foodstuffs and beverages. Do not inhale vapours or dust.

**Advice on protection against fire and explosion**

Dust can form an explosive mixture with air. Take precautionary measures against static charges. Keep away from sources of ignition.

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures and storage conditions**

Keep container tightly closed in a well-ventilated place.

**Requirements for storage rooms and vessels**

No special measures required.

**Advice on storage assembly**

Do not store together with: explosive substances

### 7.3 Specific end use(s)

No data available.

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**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational exposure limit values**

No	Substance name	CAS no.	EC no.
1	<b>nickel</b>	<b>7440-02-0</b>	<b>231-111-4</b>
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Nickel		
	TWA	0.1	mg/m <sup>3</sup>
	Skin resorption / sensibilisation	Sk	
2	<b>cobalt</b>	<b>7440-48-4</b>	<b>231-158-0</b>
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Cobalt		
	TWA	0.1	mg/m <sup>3</sup>
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Cobalt compounds		
	Co		
	TWA	0.1	mg/m <sup>3</sup>
3	<b>chromium</b>	<b>7440-47-3</b>	<b>231-157-5</b>
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Chromium		
	TWA	0.5	mg/m <sup>3</sup>
	<b>2006/15/EC</b>		
	Chromium Metal, Inorganic Chromium (II) Compounds and Inorganic Chromium (III) Compounds (insoluble)		
	TWA	2	mg/m <sup>3</sup>
4	<b>SILICON</b>	<b>7440-21-3</b>	<b>231-130-8</b>
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Silicon		
	total inhalable dust		
	TWA	10	mg/m <sup>3</sup>
	<b>List of approved workplace exposure limits (WELs) / EH40</b>		
	Silicon		
	respirable dust		
	TWA	4	mg/m <sup>3</sup>

**8.2 Exposure controls****Appropriate engineering controls**

No data available.

**Personal protective equipment****Respiratory protection**

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

**Eye / face protection**

Safety glasses with side protection shield (EN 166)

**Hand protection**

In case of thermal processing, thermally insulating protective gloves are to be used. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

**Other**

Normal chemical work clothing.

**Environmental exposure controls**

No data available.

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

<b>Form/Colour</b>	
solid	
white	
<b>Odour</b>	
odourless	
<b>Odour threshold</b>	
No data available	
<b>pH value</b>	
No data available	
<b>Boiling point / boiling range</b>	
No data available	
<b>Melting point / melting range</b>	
Value	1020 - 1150 °C
Remarks	The various products have different melting intervals within the indicated melting range.
<b>Decomposition point / decomposition range</b>	
No data available	
<b>Flash point</b>	
No data available	
<b>Auto-ignition temperature</b>	
No data available	
<b>Oxidising properties</b>	
No data available	
<b>Explosive properties</b>	
No data available	
<b>Flammability (solid, gas)</b>	
No data available	
<b>Lower flammability or explosive limits</b>	
No data available	
<b>Upper flammability or explosive limits</b>	
No data available	
<b>Vapour pressure</b>	
No data available	
<b>Vapour density</b>	
No data available	
<b>Evaporation rate</b>	
No data available	
<b>Relative density</b>	
No data available	
<b>Density</b>	
Value	8.2 - 8.5 g/cm <sup>3</sup>
<b>Solubility in water</b>	
Remarks	insoluble

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No data available

**Partition coefficient: n-octanol/water**

No data available

**Viscosity**

No data available

**9.2 Other information****Other information**

No data available.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Dangerous reactions are not expected if the product is handled according to its intended use.

**10.2 Chemical stability**

Stable under recommended storage and handling conditions (See section 7).

**10.3 Possibility of hazardous reactions**

Possible hydrogen formation upon contact with acids.

**10.4 Conditions to avoid**

None, if handled according to intended use.

**10.5 Incompatible materials**

Acids

**10.6 Hazardous decomposition products**

No hazardous decomposition products known.

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute oral toxicity**

No data available

**Acute dermal toxicity**

No data available

**Acute inhalational toxicity**

No data available

**Skin corrosion/irritation**

No data available

**Serious eye damage/irritation**

No data available

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

No data available

**Reproduction toxicity**

No data available

**Carcinogenicity**

No data available

**STOT-single exposure**

No data available

**STOT-repeated exposure**

No data available

**Aspiration hazard**

No data available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

Inhalation of vapours in high concentration may cause metal fume fever and may cause damage of the central nervous system in case of repeated and prolonged exposure. Repeated and prolonged exposure to high dust concentrations may lead to irritation of the respiratory tract. Inhalation of metal-containing dusts may cause acute poisoning, leading to nausea, vomiting and abdominal pain. Extended exposition through inhalation of nickel dust and flue gas may lead to lesions, incl. fibrosis. Nickel contaminated dust that is transferred by the ambient air is considered cancer-causing when entering the depths of the respiratory tract. Metallic nickel and all its compounds may have a sensitising effect, in particular with persons with general proneness to allergies.



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**SECTION 12: Ecological information****12.1 Toxicity****Toxicity to fish (acute)**

No data available

**Toxicity to fish (chronic)**

No data available

**Toxicity to Daphnia (acute)**

No data available

**Toxicity to Daphnia (chronic)**

No data available

**Toxicity to algae (acute)**

No data available

**Toxicity to algae (chronic)**

No data available

**Bacteria toxicity**

No data available

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment****Results of PBT and vPvB assessment**

PBT assessment

No data available.

vPvB assessment

No data available.

**12.6 Other adverse effects**

No data available.

**12.7 Other information****Other information**

Do not discharge product unmonitored into the environment.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

**Packaging**

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

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**SECTION 14: Transport information****14.1 Transport ADR/RID/ADN**

The product is not subject to ADR/RID/ADN regulations.

**14.2 Transport IMDG**

The product is not subject to IMDG regulations.

**14.3 Transport ICAO-TI / IATA**

The product is not subject to ICAO-TI / IATA regulations.

**14.4 Other information**

No data available.

**14.5 Environmental hazards**

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

**14.6 Special precautions for user**

No data available.

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

Not relevant

**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulations****Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)**

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

**REACH candidate list of substances of very high concern (SVHC) for authorisation**

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

**Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES**

The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.

No	Substance name	CAS no.	EC no.	No
1	nickel	7440-02-0	231-111-4	27

**Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances**

This product is not subject to Part 1 or 2 of Annex I.

**Other regulations**

Adhere to the national sanitary and occupational safety regulations when using this product.

**15.2 Chemical safety assessment**

No data available.

**SECTION 16: Other information****Sources of key data used to compile the data sheet:**

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

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**Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)**

H372 Causes damage to organs through prolonged or repeated exposure.

**Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)**

S This substance may not require a label according to Article 17 (see section 1.3 of Annex I) (Table 3.1). This substance may not require a label according to Article 23 of Directive 67/548/EEC (see section 8 of Annex VI to that Directive) (Table 3.2).

7 Alloys containing nickel are classified for skin sensitisation when the release rate of 0.5 µg Ni/cm<sup>2</sup>/week, as measured by the European Standard reference test method EN 1811, is exceeded.

**Department issuing safety data sheet**

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This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

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