

SOLIBOND C plus Powder

11294-0014

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

1.1. Product identifier

SOLIBOND C plus Powder

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

Use of the substance/mixture

Cobalt-chromium bonding alloy

Use in dental technology

Production of metal scaffolding

1.3. Details of the supplier of the safety data sheet

Company name: YETI Dentalprodukte GmbH

Street: Industriestrasse 3

Place: D-78234 Engen

Telephone: +49 7733-9410-0

Telefax: +49 7733-9410-22

Responsible Department: sdb@yeti-dental.com

Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone

+49 7733-9410-0 (Mo-Do 8:00 - 16:30, Fr 8:00 - 15:00)

number:

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard Statements:

Harmful if swallowed.

May cause an allergic skin reaction.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled .

May cause cancer by inhalation.

May damage fertility. May damage the unborn child.

May cause long lasting harmful effects to aquatic life .

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

cobalt

Signal word:

Danger

Pictograms:



Hazard statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled .
H350i	May cause cancer by inhalation.
H360FD	May damage fertility. May damage the unborn child.
H413	May cause long lasting harmful effects to aquatic life .

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands and face thoroughly after handling .
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	Wear respiratory protection.

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P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water.
P362+P364	Take off contaminated clothing and wash it before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional advice on labelling

The product is labeled in accordance with Regulation (EC) no. 1272/2008 (GHS).

2.3. Other hazards

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

A reaction to chrome (VI) compounds can occur in case of thermal processing.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Alloy.

Mixture containing following substances with additives

Other components: Tungsten, Molybdenum, silicon, Niobium, Vanadium.

Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
7440-48-4	cobalt			59 - 67 %
	231-158-0	027-001-00-9	01-2119517392-44	
	Carc. 1B, Repr. 1B, Acute Tox. 4, Eye Irrit. 2, Resp. Sens. 1, Skin Sens. 1, Aquatic Chronic 4; H350i H360 H302 H319 H334 H317 H413			
7440-47-3	Chromium*			23 - 25 %
	231-157-5			

Full text of H and EUH statements: see section 16.

Further Information

*Substance with exposure limit (EH40).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove contaminated soaked clothing immediately. Keep warm and calm injured person. Take away from danger area and lay down affected person.

After inhalation

When used as intended, exposure through inhalation is not to be expected. Take affected person away from danger area. Ensure of fresh air. In case of the person being unconscious put him/her in a stable side position. If intensive inhalation of dust seek medical treatment immediately.

After contact with skin

Wash off with soap and plenty of water.
Consult a doctor if skin irritation persists.

After contact with eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Seek medical treatment by eye specialist.

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After ingestion

Do not induce vomiting. Rinse out mouth and give plenty of water to drink. Never give anything by mouth to an unconscious person. Summon a doctor immediately. Do not give neutralising liquids.

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

Health injuries are not known or expected under normal use.

Harmful if swallowed. Causes serious eye irritation. May cause an allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer by inhalation.

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

Treat symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Dry sand, Special powder against metal fire. Never use water.

Unsuitable extinguishing media

Do not use water. Do not use dry chemical, CO₂ or halon.

5.2. Special hazards arising from the substance or mixture

Fire may produce: cobalt oxide, Molybdenum trioxide, Vanadium pentoxide.

5.3. Advice for firefighters

Use breathing apparatus with independent air supply.

Wear full protective suit.

Additional information

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

In case of vapour formation use respirator. Ensure adequate ventilation. Use personal protective clothing. Get unprotected persons to safety. Keep away from heat and sources of ignition. Avoid contact with the skin and the eyes. Do not inhale vapour/aerosol.

6.2. Environmental precautions

Do not discharge into the drains/surface waters/ground water. Risk of explosion.

6.3. Methods and material for containment and cleaning up

Do not use a vacuum cleaner. Take up mechanically and collect in suitable container for disposal. Never use water.

6.4. Reference to other sections

Observe protective instructions (see Sections 7 and 8).

Information for disposal see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid dust formation. Do not breathe vapours/dust. Do not keep containers unlocked. Seal containers tight again after use. Observe the minimum standards in accordance with TRGS 500. Handle in accordance with the general hygienic rules. When using do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Contaminated work clothing should not be allowed out of the workplace.

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Vapours are heavier than air and spread along ground. Dusts may form explosive mixture in air when handling the product. Take precautionary measures against static discharges (earthing (grounding) at pouring).

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

No special precautions required.

Advice on storage compatibility

Keep away from food, drink and animal feeding stuffs. Do not store together with oxidizing and self-igniting products.

Do not store with: oxidizing substances.

Further information on storage conditions

Use only in well-ventilated areas. Keep containers tightly closed in a cool, well-ventilated place. Protect from heat and direct solar radiation.

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7.3. Specific end use(s)

Cobalt-chromium bonding alloy
 Use in dental technology
 Production of metal scaffolding

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
7440-47-3	Chromium	-	0.5		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
-	Cobalt and cobalt compounds (as Co)	-	0.1		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
-	Molybdenum compounds (as Mo), insoluble compounds	-	10		TWA (8 h)	WEL
		-	20		STEL (15 min)	WEL
7440-21-3	Silicon, inhalable dust	-	10		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
-	Tungsten compounds (as W): insoluble compounds and others	-	5		TWA (8 h)	WEL
		-	10		STEL (15 min)	WEL

8.2. Exposure controls



Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over the use of personal protective equipment. Ensure adequate ventilation. Provide sufficient air exchange and/or exhaust in work rooms.

Protective and hygiene measures

Avoid contact with eyes and skin. Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. Take off immediately all contaminated clothing.

Eye/face protection

Tightly fitting goggles (EN 166).
 Eye wash bottle with pure water (EN 15154).

Hand protection

Protective gloves resistant to chemicals made off butyl, minimum coat thickness 0,7 mm, permeation resistance (wear duration) > 240 minutes, i.e. protective glove <Butoject 898> made by www.kcl.de.
 This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions. Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

Skin protection

Long sleeved clothing (EN 368). Wear fire retardant protective coveralls. Take precautions against electrostatic discharges.

Respiratory protection

Use protective face mask (EN 149). Short term: filter apparatus, combination filter A-P3

Environmental exposure controls

Do not empty into drains Explosion risk.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Solid matter, Powder
 Colour: Grey

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Odour: Odourless
 pH-Value: Not applicable

Changes in the physical state

Melting point: 1310 - 1370 °C
 Initial boiling point and boiling range: n.d.
 Softening point: n.d.
 Expansion coefficient: 25-500°C, 20-600 °C
 Flash point: Not applicable
 Explosive properties: n.d.
 Oxidizing properties: Not easily flammable.
 Vapour pressure: (at 20 °C) Not applicable
 Bulk density: 3000 - 5000 kg/m³
 Water solubility: n.d.
 Solubility in other solvents: n.d.
 Solvent content: 0%

9.2. Other information

Other information
 (n.a. = not applicable; n.d. = not determined)

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazards to be specifically mentioned.

10.2. Chemical stability

Chemically stable.

10.3. Possibility of hazardous reactions

Heating can release hazardous gases. (cobalt oxide, Molybdenum trioxide, Vanadium pentoxide)

10.4. Conditions to avoid

Protect from heat and direct solar radiation.
 heat, sparks, open flames, hot surfaces.
 Keep away from heat and sources of ignition.

10.5. Incompatible materials

Hydrogen is emitted when acids and alkalis react.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful if swallowed.

ATEmix calculated

ATE (oral) 806,5 mg/kg

CAS No	Chemical name				
	Exposure route	Method	Dose	Species	Source
7440-48-4	cobalt				
	oral	LD50	6170 mg/kg	Rat	GESTIS

Irritation and corrosivity

Causes serious eye irritation.
 Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

May cause an allergic skin reaction. (cobalt)
 May cause allergy or asthma symptoms or breathing difficulties if inhaled. (cobalt)

STOT-single exposure

Based on available data, the classification criteria are not met.

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Severe effects after repeated or prolonged exposure

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

May cause cancer by inhalation. (cobalt)

May damage fertility. May damage the unborn child.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

May cause long lasting harmful effects to aquatic life.

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	[h] [d]	Species	Source
7440-48-4	cobalt					
	Acute fish toxicity	LC50	> 100 mg/l	96 h	Brachydanio rerio	

12.2. Persistence and degradability

Methods for the determination of biodegradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

Not determined

12.4. Mobility in soil

Not determined

12.5. Results of PBT and vPvB assessment

According to Regulation (EC) No 1907/2006 (REACH) none of the substances, contained in this product are a PBT / vPvB substance.

12.6. Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

This material and its container must be disposed of as hazardous waste. If recycling is not practicable, dispose of in compliance with local regulations. The waste code number must be agreed with the disposer / manufacturer.

Waste disposal number of waste from residues/unused products

120104 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; non-ferrous metal dust and particles

Contaminated packaging

Empty containers should be taken for local recycling, recovery or waste disposal.

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

Contaminated packagings are to be treated like the product itself.

Recommended cleaning agent: water with detergents.

SECTION 14: Transport information

Land transport (ADR/RID); Marine transport (IMDG); Air transport (ICAO-TI/IATA-DGR); Inland waterways transport (ADN)

14.1. UN number:

Not applicable. No hazardous material as defined by the transport regulations.

14.2. UN proper shipping name:

Not applicable. No hazardous material as defined by the transport regulations.

14.3. Transport hazard class(es):

Not applicable. No hazardous material as defined by the transport regulations.

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14.4. Packing group:

Not applicable. No hazardous material as defined by the transport regulations.

14.5. Environmental hazards

Not applicable. No hazardous material as defined by the transport regulations.

14.6. Special precautions for user

Not applicable. No hazardous material as defined by the transport regulations.

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

Not applicable. No hazardous material as defined by the transport regulations.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulatory information

2004/42/EC (VOC):

0 %

Information according to 2012/18/EU
(SEVESO III):

Not subject to 2012/18/EU (SEVESO III)

Additional information:

Additional information

The product is labeled in accordance with Regulation (EC) no. 1272/2008 (GHS).

National regulatory information

Employment restrictions:

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water contaminating class (D):

3 - highly water contaminating

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

SECTION 16: Other information

Abbreviations and acronyms

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route

RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses

ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure

IMDG = International Maritime Code for Dangerous Goods

IATA/ICAO = International Air Transport Association / International Civil Aviation Organization

MARPOL = International Convention for the Prevention of Pollution from Ships

IBC-Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

REACH = Registration, Evaluation, Authorization and Restriction of Chemicals

CAS = Chemical Abstract Service

EN = European norm

ISO = International Organization for Standardization

DIN = Deutsche Industrie Norm

PBT = Persistent Bioaccumulative and Toxic

LD = Lethal dose

LC = Lethal concentration

EC = Effect concentration

IC = Median immobilisation concentration or median inhibitory concentration

Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H350i May cause cancer by inhalation.

H360 May damage fertility or the unborn child.

H360FD May damage fertility. May damage the unborn child.

H413 May cause long lasting harmful effects to aquatic life.

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Further Information

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)