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

1.1 Product identifier

I-BOND NF, I-BOND EASY, I-BOND WW, I-MG, I-MG HE, I-MG FH, INTERSOLDER, CC DISK NF CoCr, CC DISK EASY CoCr, CC DISK WW CoCr

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

I-BOND NF, I-BOND EASY, I-BOND WW are used as base alloy for ceramic firing. **I-MG, I-MG HE, I-MG FH** are used as casting alloys for partial dentures. **INTERSOLDER** is used as filler material for brazing of dental casting alloys. **CC DISK NF CoCr, CC DISK EASY CoCr, CC DISK WW CoCr** are used for producing prosthetic substitutes in CAD/CAM milling machines for metal-ceramic dental restorations.

1.3 Details of the supplier of the safety data sheet

		Production:
Manufacturer/Supplier:	INTERDENT d.o.o.	INTERDENT d.o.o.
Street:	Opekarniška cesta 26	Dol 1
Country code /Postal code/City:	SI-3000 Celje	SI-3342 Gornji Grad
Telephone:	+386(0) 425-62-00	
Fax:	+368(0) 425-62-02	

1.4 Emergency telephone number

Emergency phone:	112 (EU) +386(0) 425-62-00 (Mon. – Fri.: 8.00 – 16.00)

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

Products are not classified as hazardous according to Regulation (EC) No 1272/2008.

2.2 Label elements

None for the mixture.

2.3 Other hazards

Routes of Entry/Exposure:

Cobalt-based alloys in their usual solid form and under normal conditions do not present an inhalation, ingestion, or contact health hazard. Inhalation may occur if dust or fumes are generated. Skin absorption is not likely to occur but irritation may occur when in contact with the skin. Ingestion is not likely to occur.

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SECTION3: Composition / information on ingredients

3.1 Mixtures

Composition range [%]						
Cobalt	Chromium	Molybdenum	Wolfram	Silicon	Manganese	Niobium, Carbon
60 - 67	22 – 31	2 - 6	< 10	0,8 – 2	< 2	< 1

Chemical name	**CAS Nr. EC-Number INDEX number**	**%**	**Classification according to EC 1272/2008**	
			Hazardous class/hazardous category	Hazardous phrases
Cobalt	7440-48-4 231-158-0 027-001-00-9	60 – 67	Carc. 1B Muta. 2 Repr. 1B Resp. Sens. 1 Skin Sens. 1 Aquatic Chronic 4	H350 H341 H360F H334 H317 H413

3.2 Additional information

For the wording of the listed risk phrases refer to section 16.

SECTION 4: First Aid Measures

4.1 Description of first aid measures

After inhalation:
If dust or other particles are generated during processing, it is necessary to provide adequate ventilation and respiration protection. If dust/particles have been aspirated seek for medical attention.

After skin contact:
Instantly wash with water and soap and rinse thoroughly.

After eye contact:
Rinse open lid for several minutes under running water.

After swallowing:
Wash off mouth with water at first and then drink cca.100mL of water. In case of persistent symptoms consult doctor.

4.2 Most important symptoms and effects, both acute and delayed
See section 11.

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

SECTION 5: Fire Prevention Regulations

5.1 Extinguishing media
Suitable extinguishing agents:
CO2, foam, powder, water.

Unsuitable extinguishing agents:
n.a.

5.2 Special hazards arising from the substance or mixture
Metallic dust or fumes may be produced during welding, burning, grinding and possibly machining.

5.3 Advice for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing. Co-ordinate fire-fighting measures to the fire surroundings. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Advice for firefighters Do not inhale explosion and combustion gases.

SECTION 6: Accidental Substance Release Regulations

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protection equipment. Avoid causing and breathing dust.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.2 Environmental precautions
Do not allow product to enter sewage system or water.

6.3 Methods and material for containment and cleaning up
Dispose contaminated material according local law.

6.4 Reference to other sections
Safe handling: see section 7. Personal protection equipment: see section 8. Disposal: see section 13.

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SECTION 7: Handling and storage

7.1 Precautions for safe handling:
Prevent formation of dust. If dust is formed, avoid breathing it. Avoid skin and eye contact. The metal powder that is formed during treatment should be suck with vacuum cleaner.

7.2 Conditions for safe storage, including any incompatibilities
Cobalt-based dental alloys should be stored in tightly closed and correctly labelled containers.

7.3 Specific end use(s)
Products are used in dental laboratories.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
The OEL values for cobalt-based alloys are not defined. Because of safety reasons the PEL values for pure metal powders and fume should be considered:

PEL_{OSHA} (Cobalt metallic) = 0,1 mg/m^3
PEL_{OSHA} (Cobalt fume) = 0,05 mg/m^3

8.2 Exposure controls
Personal protective equipment
General protection and hygienic measures:
Consider good hygienic precaution.

Breathing equipment:
Use dust extractor and protective mask with FFP3 filter during treating and polishing.

Protection of hands:
Protective gloves during treating and polishing.

Eye protection:
Protective goggles during treating and polishing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	solid
Colour	Silver-grey, metallic

Odour	odourless
Boiling point	n.a.
Melting point	Cca. 1400°C
Density	7,9 -8,4 g/cm^3 at 20°C
Solubility in water	insoluble
Flash point	n.a.
Explosion limits	n.a.

9.2 Other information
None

SECTION 10: Stability and reactivity

10.1 Reactivity
Not determined for product as a whole.

10.2 Chemical stability
In the product form is stable under normal conditions.

10.3 Possibility of hazardous reaction
No dangerous reaction known.

10.4 Conditions to avoid
Dust-generating activities.

10.5 Incompatible materials
None

10.6 Hazardous decomposition products
Metal oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Toxicokinetics, metabolism and distribution:
For cobalt-based alloys in their solid form and under normal conditions toxicological effects are not known. Substantial uptake of cobalt may occur through the lungs following inhalation, mainly of metallic cobalt, often combined with other metals, and cobalt oxide in dust and welding fumes. During long-term, systemic cobalt exposure in humans accumulates in tissues, in particular liver and kidney, and cobalt concentration is increased in whole-blood, serum and urine.

Acute Health Effects:

Animal data are available for cobalt metallic:
Inhalation: Rat, oral, LD_{50}: 7510 mg/kg
Ingestion: Rat, oral, LD_{50}: 7510 mg/kg
Skin: Dermal, LD_{50} >2000 mg/kg bw
Eye: Cobalt metal, in massive form, is not expected route of exposure.

Chronic Health Effects:
Irritation:
Cobalt dust is a mild irritant to the eyes and the skin.

Sensitization:
Dermatitis is a common result of dermal exposure to cobalt in humans.
Allergic sensitization and chronic bronchitis may also result from prolonged exposure to the powder.

Carcinogenicity:
IARC evaluated the carcinogenic hazards of cobalt metallic and concluded that:
• There is inadequate evidence in humans for the carcinogenicity of cobalt metal.
• There is limited evidence in experimental animals for the carcinogenicity of metal alloys containing cobalt.
Therefore cobalt and cobalt compounds are classified in group 2B as possibly carcinogenic. Cobalt-based alloys are classified in group 3 as not carcinogenic to humans.

Teratogenicity/Mutagenicity: No significant genotoxic effects and limited teratogenic evidence for humans.

SECTION 12: Ecological information

12.1 Toxicity
Not available for the product.

12.2 Persistance and degradability
In fresh and salt water, cobalt-based alloys will eventually form metal oxides and precipitate in sediments.

12.3 Bioaccumulative potential
There is little tendency for bioaccumulation along food chain. Alloy may persist in the environment for long periods based upon the corrosive resistance, insolubility in water, and non-biodegradable properties.

12.4 Mobility in soil
Not available for the product.

12.5 Results of PBT and vPvB assessment
The substances in the mixture do not meet the PBT/vPvB criteria according to EC 1907/2006 REACH, annex XIII.

12.6 Other adverse effect
Not known

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose according to the local law.

SECTION 14: Transport Information

	Land-Road/Railwey (ADR/RID):	**Inland waterways (ADNR):**	**Sea (IMDG):**	**Air (IATA):**
14.1 UN number	No data available			
14.2 UN proper shipping name	No data available			
14.3 Transport hazard class(es)	No data available			
14.4 Packing group	No data available			
14.5 Environmental hazards	No data available			
14.6 Special precautions for user	No special precautions			
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	No data available			

Not a dangerous product within the meaning of the transport regulations.

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SECTION 15: Regulatory information

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

EU Label Information:
Classification and labeling have been performed according to Regulative 1272/2008.

EU Hazard Symbol and Indication of Danger:
According to Regulation EC 1272/2008 this product is not classified.

15.2 Chemical safety assessment
Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

Revision:
Version 08 issued on March 2022 in accordance with EC 1907/2006 (Commission Regulation (EU) 2015/830) and EC 1272/2008.

Full text of phrase codes used in this safety data sheet:
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317: May cause an allergic skin reaction.
H 413: May cause long lasting harmful effects to aquatic life.

Legend of abbreviations:
IARC: International agency for research on cancer
NTP: National toxicology program
OSHA: Occupational safety and health administration
OEL: Occupational exposure limit
LD50: Median lethal dose; the dose causing 50% lethality
OSHA PELs: Permissible Exposure Limits - 8-hour TWA (time-weighted average) concentrations unless otherwise noted.

References:
IARC (2006); International Agency for Research on Cancer (IARC). 2006. IARC monograph on the evaluation of carcinogenic risks to humans. Volume 86. Cobalt in hard metals and cobalt sulfate, gallium arsenide, indium phosphide and vanadium pentoxide.

NTP, Report on Carcinogens. 2016. Cobalt and Cobalt Compounds that Release Cobalt Ions In Vivo. https://ntp.niehs.nih.gov/ntp/roc/monographs/cobalt_final_508.pdf

OSHA; Exposure limits and health effects.
https://www.osha.gov/dts/chemicalsampling/data/CH_229100.html

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Disclaimer of expressed and implied warranties:
The information contained in the safety data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as warranty or as a specification. The information relates only to the product specified and may not be suitable for combinations with other materials or in processes other than those specifically described herein.