

Safety Data Sheet

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

Manufacturer/Supplier:	INTERDENT d.o.o.	<i>Production:</i> 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	H350 H341 H360F H334 H317 H413
			Muta. 2 Repr. 1B Resp. Sens. 1 Skin Sens. 1 Aquatic Chronic 4	

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.

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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:

PELOSHA (Cobalt metallic) = 0,1 mg/m³

PELOSHA (Cobalt fume) = 0,05 mg/m³

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

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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 hazard classes as defined in Regulation (EC) No 1272/2008

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 accumulate in tissues, in particular liver and kidney, and cobalt concentration is increased in whole-blood, serum and urine.

Acute Health Effects:

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Animal data are available for cobalt metallic:

Inhalation: Rat, oral, LD₅₀: 7510 mg/kg

Ingestion: Rat, oral, LD₅₀: 7510 mg/kg

Skin: Dermal, LD₅₀ >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.

11.2 Information on other hazards

No other information available.

SECTION 12: Ecological information

12.1 Toxicity

Not available for the product.

12.2 Persistence 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.

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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/Railway (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 Maritime transport in bulk according to IMO instruments	No data available			
Not a dangerous product within the meaning of the transport regulations.				

SECTION 15: Regulatory information

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

EU Label Information:

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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 09 issued on January 2023 in accordance with EC 1907/2006 (Commission Regulation (EU) 2015/830) and EC 1272/2008.

Revision in accordance to changes in COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

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:

ADR - Accord européen relatif au transport international des marchandises dangereuses par route

CAS - Chemical Abstracts Service

CLP – Classification, labeling and packaging

CMR - Carcinogenic, Mutagenic or toxic for Reproduction

DNEL - Derived No-Effect Level

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EmS Emergency Schedule

GHS "Globally Harmonized System of Classification and Labelling of Chemicals"

IARC: International agency for research on cancer

IATA International Air Transport Association

IATA/DGR Dangerous Goods Regulations (DGR) for the air transport (IATA)

ICAO International Civil Aviation Organization IMDG International Maritime

Dangerous Goods Code PBT persistent bioaccumulative, toxic

LD50: Median lethal dose; the dose causing 50% lethality

NTP: National toxicology program

OSHA: Occupational safety and health administration

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OEL: Occupational exposure limit
OSHA PELs: Permissible Exposure Limits - 8-hour TWA (time-weighted average) concentrations unless otherwise noted.
PNEC Predicted No-Effect Concentration
PPM parts per million
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals
RID Règlement concernant le transport International ferroviaire des marchandises Dangereuses št. vPvB very Persistent and very Bioaccumulative (zelo obstojno in se zelo lahko kopiči v organizmih)

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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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.