

# SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (Reach) and Regulation (EU) No. 2015/830

NPM Dental Alloys

Rev: 00/25.08.2020

Replaces: --

Date of printing: 21.06.2022

Page: 1 / 9

## ADORBOND CC Powder, ADORBOND CC PLUS Powder

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

- 1.1 Product identifier**  
Tradename: ADORBOND CC Powder, ADORBOND CC PLUS Powder
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
General use: Manufacturing of dental prostheses in dental laboratories using the SLM-process
- 1.3 Details of the supplier of the safety data sheet**  
**Manufacturer:** Ador Edelmetalle GmbH  
Street / mailbox: Klotzstr. 33  
Country code. / postal code / city: DE 40721 Hilden  
Phone: +49 (0)2103 9866-30  
E-mail / Website: [kontakt@ador-edelmetalle.de](mailto:kontakt@ador-edelmetalle.de) / [www.ador-edelmetalle.de](http://www.ador-edelmetalle.de)  
Information provided by: Sales Department: +49 (0)2103 9866-30
- Supplier:** SILADENT Dr. Böhme & Schöps GmbH  
Street / mailbox: Im Klei 26  
Country code. / postal code / city: DE - 38644 Goslar  
Phone: +49 (0) 53 21 / 37 79 – 0  
Fax: +49 (0) 53 21 / 38 96 32  
E-mail / Website: [info@siladent.de](mailto:info@siladent.de) - [www.siladent.de](http://www.siladent.de)
- 1.4 Emergency telephone number:** For medical advice (in German and English):  
+49 (0)551 192 40 (Information Center Germany North for poisonous substances)

### SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture**  
**Classification according to EC regulation 1272/2008 (CLP)**  
Resp. Sens. 1; H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Skin Sens. 1; H317: May cause an allergic skin reaction.  
Muta. 2; H341: Suspected of causing genetic defects.  
Carc. 1B; H350: May cause cancer.  
Repr. 1A; H360F: May damage fertility.  
Aquatic Chronic 4; H413: May cause long lasting harmful effects to aquatic life.

- 2.2 Label elements**  
Labelling according to EC-Regulation 1272/2008 (CLP)  
Hazard pictograms



**GHS08**

Signal word:

**Danger**

#### Hazard statements

- H317: May cause an allergic skin reaction.  
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H341: Suspected of causing genetic defects.  
H350: May cause cancer.  
H360F: May damage fertility.  
H413: May cause long lasting harmful effects to aquatic life.

# SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (Reach) and Regulation (EU) No. 2015/830

NPM Dental Alloys

Rev: 00/25.08.2020

Replaces: --

Date of printing: 21.06.2022

Page: 2 / 9

## ADORBOND CC Powder, ADORBOND CC PLUS Powder

### Precautionary statements

- P201 Obtain special instructions before use.  
P261 Avoid breathing dust.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.  
P362+P364 Take off immediately all contaminated clothing and wash it before reuse.

### Special labelling.

Text for labelling: Contains: Cobalt.  
As alloy this product does not require labelling if it fulfils the criteria of Annex I section 1.3.4 of the CLP Regulation.

### 2.3 Other hazards:

During processing, dust may form explosive mixture in air. Mechanical processing can produce particles and dust. Dust contact with the eyes can lead to mechanical irritation. Inhalation of dust may cause irritation of the respiratory system.

### Results of PBT and vPvB assessment:

The alloys under concern are not known to be persistent, bioaccumulating nor toxic.

## SECTION 3: Composition / information on ingredients

3.1 Substances: Not applicable.

### 3.2 Mixtures:

Chemical characterisation: Mixture of the substances listed below with non-hazardous additions:

Hazardous ingredients:

No.	Substance Name CAS / EG / Index	Classification (EG) 1272/2008 (CLP)	Additional information Content
1	<b>Cobalt</b> EC-Nr. 231-158-0 CAS 7440-48-4	Resp. Sens. 1; H334. Skin Sens. 1; H317. Muta. 2; H341. Carc. 1B; H350. Repr. 1B; H360F. Aquatic Chronic 4; H413.	60 – 65 %-b.w.
2	<b>Chromium Lumps or Powder</b> EC-Nr. 231-157-5 CAS 7440-47-3	not classified	20 – 25 %-b.w.
3	<b>Tungsten powder</b> EC-Nr. 231-143-9 CAS 7440-33-7	Flam. Sol. 2; H228.	5 – 10 %-b.w.
4	<b>Manganese Powder &lt; 45 µm, &gt; 25 %</b> EC-Nr. 231-105-1 CAS 7439-96-5	Aquatic Chronic 2; H411.	< 0,99 %-b.w.

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

Additional information: The maximum workplace exposure limits are, where necessary, listed in section 8.

# SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (Reach) and Regulation (EU) No. 2015/830

NPM Dental Alloys

Rev: 00/25.08.2020

Replaces: --

Date of printing: 21.06.2022

Page: 3 / 9

## ADORBOND CC Powder, ADORBOND CC PLUS Powder

### Section 4: First aid measures

---

#### 4.1 First aid measures

General information:

If medical advice is needed, have product container or label at hand. Take off immediately all contaminated clothing and wash it before reuse. First aider: Pay attention to self-protection!

In case of inhalation:

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. If victim is at risk of losing consciousness, position and transport on their side. Immediately get medical attention.

Following skin contact:

Immediately clean with water and soap followed by thorough rinsing. In case of skin reactions consult a physician.

After eye contact:

Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. Subsequently consult an ophthalmologist.

After swallowing:

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Caution if victim vomits: Risk of aspiration! When swallowed and vomited immediately, aspiration into the lungs may occur resulting in chemical pneumonia or suffocation. Immediately get medical attention.

#### 4.2 Most important symptoms and effects, both acute and delayed:

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

#### 4.3 Indication of any immediate medical attention and special treatment needed:

Treat symptomatically.

### SECTION 5: Firefighting measures

---

#### 5.1 Extinguishing media:

Suitable extinguishing media:

Product is non-combustible. Extinguishing materials should therefore be selected according to surroundings. Foam, extinguishing powder, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Water

#### 5.2 Special hazards arising from the substances or mixtures:

May form dangerous gases and vapours in case of fire. Furthermore, there may develop: Metal oxide smoke, toxic

#### 5.3 Advice for firefighters:

Special protective equipment for firefighters:  
Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information: Hazchem-Code: -

Do not allow fire water to penetrate into surface or ground water. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities.

# SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (Reach) and Regulation (EU) No. 2015/830

NPM Dental Alloys

Rev: 00/25.08.2020

Replaces: --

Date of printing: 21.06.2022

Page: 4 / 9

## ADORBOND CC Powder, ADORBOND CC PLUS Powder

### SECTION 6: Accidental release measures

- 6.1 Person-related safety precautions:** Avoid exposure. Avoid breathing dust Provide adequate ventilation. Wear appropriate protective equipment. Keep unprotected people away. Evacuate area. If possible, eliminate leakage. Take off immediately all contaminated clothing and wash it before reuse.
- 6.2 Measures for environmental protection:** Do not allow to enter into ground-water, surface water or drains. If necessary, notify appropriate authorities.
- 6.3 Measures for cleaning/collecting:** Take up mechanically, placing in appropriate containers for disposal. Avoid dust formation. Additional information: During processing, dust may form explosive mixture in air.
- 6.4 Reference to other sections:** Refer additionally to section 8 and 13.

### SECTION 7: Handling and storage

- 7.1 Precautions for safe handling  
Advice on safe handling:** Obtain special instructions before use. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation, and local exhaust as needed. Avoid breathing dust. Wear appropriate protective equipment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse. Work place should be equipped with a shower and an eye rinsing apparatus.
- 7.2 Conditions for safe storage, including any incompatibilities  
Requirements for storerooms and containers:** Keep container tightly closed and in a well-ventilated place. Keep container dry. Keep only in the original container. Protect from heat and direct sunlight. Store containers in upright position.
- Hints on joint storage:** Keep away from food, drink and animal feedingstuffs. Do not store together with combustible or self-igniting materials or any highly flammable solids. Do not store together with acids/alkalies and oxidation agents.
- 7.3 Special end use(s):** General use: Manufacturing of dental prostheses in dental laboratories using the SLM-process.

### SECTION 8: Exposure controls / personal protection

#### 8.1 Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
7440-48-4	Cobalt	Great Britain: WEL-TWA Ireland: 8 hours	0.1 mg/m <sup>3</sup> 0.02 mg/m <sup>3</sup>
7440-47-3	Chromium Lumps oder Pulver	Europe: IOELV: TWA  Great Britain: WEL-TWA Ireland: 8 hours	2 mg/m <sup>3</sup> (metal and compounds, inorganic, insoluble) 0.5 mg/m <sup>3</sup> 2 mg/m <sup>3</sup>

# SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (Reach) and Regulation (EU) No. 2015/830

NPM Dental Alloys

Rev: 00/25.08.2020

Replaces: --

Date of printing: 21.06.2022

Page: 5 / 9

## ADORBOND CC Powder, ADORBOND CC PLUS Powder

7440-33-7	Tungsten powder	Great Britain: WEL-STEL	10 mg/m <sup>3</sup> compounds, insoluble		
		Great Britain: WEL-STEL	3 mg/m <sup>3</sup> compounds, soluble		
		Great Britain: WEL-TWA	1 mg/m <sup>3</sup> compounds, soluble		
		Great Britain: WEL-TWA	5 mg/m <sup>3</sup> compounds, insoluble		
		Ireland: 15 minutes	10 mg/m <sup>3</sup> insoluble		
		Ireland: 15 minutes	3 mg/m <sup>3</sup> (soluble)		
		Ireland: 8 hours	1 mg/m <sup>3</sup> (soluble)		
7439-98-7	Molybdenum	Ireland: 8 hours	5 mg/m <sup>3</sup> insoluble		
		Great Britain: WEL-STEL	10 mg/m <sup>3</sup> (compounds soluble, Molybdenum)		
		Great Britain: WEL-STEL	20 mg/m <sup>3</sup> (compounds insoluble, Molybdenum)		
		Great Britain: WEL-TWA	10 mg/m <sup>3</sup> (compounds insoluble, Molybdenum)		
		Great Britain: WEL-TWA	5 mg/m <sup>3</sup> (compounds soluble, Molybdenum)		
		Ireland: 8 hours	0.5 mg/m <sup>3</sup> (compounds, soluble, respirable fraction)		
		Ireland: 8 hours	10 mg/m <sup>3</sup> compounds, insoluble; inhalable fraction		
7440-21-3	Silicon	Ireland: 8 hours	3 mg/m <sup>3</sup> compounds, insoluble; respirable fraction		
		Great Britain: WEL-TWA	10 mg/m <sup>3</sup> (inhalable fraction)		
		Great Britain: WEL-TWA	4 mg/m <sup>3</sup> (respirable fraction)		
		Ireland: 8 hours	10 mg/m <sup>3</sup> (inhalable fraction)		
		Ireland: 8 hours	4 mg/m <sup>3</sup> (respirable fraction)		
		7439-96-5	Manganese Powder < 45 µm, > 25 %	Europe: IOELV: TWA	0.05 mg/m <sup>3</sup> (respirable fraction)
				Europe: IOELV: TWA	0.2 mg/m <sup>3</sup> (inhalable fraction)
Great Britain: WEL-TWA	0.05 mg/m <sup>3</sup> (Manganese and compounds, inorganic, respirable fraction)				
Great Britain: WEL-TWA	0.2 mg/m <sup>3</sup> (Manganese and compounds, inorganic, inhalable fraction)				
Ireland: 15 minutes	3 mg/m <sup>3</sup> (Manganese, Smoke, inhalable fraction)				
Ireland: 8 hours	0.05 mg/m <sup>3</sup> (respirable fraction)				
Ireland: 8 hours	0.2 mg/m <sup>3</sup> (Manganese and compounds)				
Ireland: 8 hours	0.2 mg/m <sup>3</sup> (Manganese, Smoke, inhalable fraction)				

### 8.2 Personal protection equipment Respiratory protection:

In case of inadequate ventilation, wear respiratory protection. Respiratory protection must be worn whenever the WEL levels have been exceeded. In case of dust formation: Particulates filter P3 according to EN 143.

### Eye protection:

Tightly sealed goggles according to EN 166.

### Hand protection:

Protective gloves according to EN 374. Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

# SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (Reach) and Regulation (EU) No. 2015/830

NPM Dental Alloys

Rev: 00/25.08.2020

Replaces: --

Date of printing: 21.06.2022

Page: 6 / 9

## ADORBOND CC Powder, ADORBOND CC PLUS Powder

<b>Body protection:</b>	Wear dust-resistant protective clothing.
<b>General protection and hygiene measures:</b>	Obtain special instructions before use. Avoid breathing dust. Do not get in eyes, on skin, or on clothing. Take off immediately all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Work place should be equipped with a shower and an eye rinsing apparatus
<b>Environmental exposure controls:</b>	See section 6.2 Environmental precautions.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties:

Form / Colour/ Odour:	Physical state at 20 °C and 101.3 kPa: solid, powder/ grey/ odourless
pH:	Not applicable
Melting point / freezing point:	1200 - 1400 °C The various products have different melting intervals within the indicated melting range
Initial boiling point / boiling range:	No data available
Flash point/flash point range:	Not applicable
Evaporation rate:	No data available
Flammability:	This product is non-flammable.
Explosion limits:	
Vapour pressure:	No data available
Vapour density:	No data available
Density:	at 20 °C: 8 - 9 g/cm <sup>3</sup>
Solubility in water:	insoluble
Partition coefficient: n-octanol/water:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
Viscosity, kinematic:	No data available
Explosive properties	During processing, dust may form explosive mixture in air.
Oxidizing characteristics:	No data available

9.2 Other Information: No data available.

### SECTION 10: Stability and reactivity

10.1 Reactivity:	Refer to 10.3
10.2 Chemical stability:	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions:	Avoid contact with acids. May result in the release of: Hydrogen.
10.4 Conditions to avoid:	Avoid dust formation.
10.5 Incompatible materials:	Acids, alkalis, strong oxidizing agents.
10.6 Hazardous decomposition products:	No hazardous decomposition products when regulations for storage and handling are observed. Thermal decomposition: No data available.



# SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (Reach) and Regulation (EU) No. 2015/830

NPM Dental Alloys

Rev: 00/25.08.2020

Replaces: --

Date of printing: 21.06.2022

Page: 7 / 9

## ADORBOND CC Powder, ADORBOND CC PLUS Powder

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Toxicological effects:

Acute toxicity (oral):

ATEmix (calculated):

Acute toxicity (dermal):

Acute toxicity (inhalative):

ATEmix (calculated):

Skin corrosion/irritation:

Serious eye damage/irritation:

Sensitisation to the respiratory tract:

Skin sensitisation:

Germ cell mutagenicity/Genotoxicity:

Carcinogenicity:

Reproductive toxicity:

Effects on or via lactation:

Specific target organ toxicity (single exposure):

Specific target organ toxicity (repeated exposure):

Aspiration hazard:

The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

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

> 5000 mg/kg

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

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

> 5 mg/kg

Lack of data.

Lack of data.

Resp. Sens. 1; H334 = May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sens. 1; H317 = May cause an allergic skin reaction.

Muta. 2; H341 = Suspected of causing genetic defects.

Carc. 1B; H350 = May cause cancer.

Repr. 1A; H360F = May damage fertility.

Lack of data.

Lack of data.

Lack of data.

Lack of data.

##### Other information:

Information about Cobalt:

LD50 Rat, oral: 6.171 mg/kg

##### Symptoms:

Mechanical processing can produce particles and dust. Dust contact with the eyes can lead to mechanical irritation. Inhalation of dust may cause irritation of the respiratory system.

### SECTION 12: Ecological information

#### 12.1 Toxicity

##### Aquatic Toxicity:

May cause long lasting harmful effects to aquatic life.

Information about Cobalt:

Algae toxicity: EC50 *Pseudokirchneriella subcapitata* (green algae): 0.27 mg/L/70h

Fish toxicity: LC50 *Leuciscus idus*: >10 mg/L/48h

#### 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:

The alloys under concern are not known to be persistent, bioaccumulating nor toxic.

#### 12.6 Other adverse effects:

Do not allow to enter into ground-water, surface water or drains.

# SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (Reach) and Regulation (EU) No. 2015/830

NPM Dental Alloys

Rev: 00/25.08.2020

Replaces: --

Date of printing: 21.06.2022

Page: 8 / 9

## ADORBOND CC Powder, ADORBOND CC PLUS Powder

### SECTION 13: Disposal considerations

---

#### 13.1 Waste treatment methods

##### Product:

Waste key number: 06 04 05\*

= wastes containing other heavy metals

\* = Evidence for disposal must be provided.

Recommendation:

Dispose of waste according to applicable legislation.

Do not dispose of with household waste.

##### Packages

Recommendation:

Dispose of waste according to applicable legislation.

Handle contaminated packages in the same way as the substance itself.

### SECTION 14: Transport information

---

#### 14.1 UN number

ADR/RID, ADN, IMDG, IATA-DGR:

Not applicable.

#### 14.2 UN proper shipping Name

ADR/RID, ADN, IMDG, IATA-DGR:

Not restricted.

#### 14.3 Transport Hazard classes

ADR/RID, ADN, IMDG, IATA-DGR:

Not applicable.

#### 14.4 Packing Group

ADR/RID, ADN, IMDG, IATA-DGR:

Not applicable.

#### 14.5 Environmental hazards

Marine pollutant:

No

#### 14.6 Special precautions:

No dangerous good in sense of these transport regulations.

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and under IBC Code:

No data available.

### SECTION 15: Regulatory information

---

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

##### National regulations - Great Britain

Hazchem-Code:

-

No data available

##### National regulations - EC member states:

Further regulations, limitations and legal requirements:

Use restriction according to REACH annex XVII, no.: 28, 29, 30  
Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: H1, E1.

#### 15.2 Chemical Safety Assessment:

For this mixture a chemical safety assessment is not required.



# SAFETY DATA SHEET



According to Regulation (EC) No. 1907/2006 (Reach) and Regulation (EU) No. 2015/830

NPM Dental Alloys

Rev: 00/25.08.2020

Replaces: --

Date of printing: 21.06.2022

Page: 9 / 9

## ADORBOND CC Powder, ADORBOND CC PLUS Powder

### SECTION 16: Other information

#### Further information

Wording of the H-phrases under paragraph 2 and 3:

H228	Flammable solid.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

#### Abbreviations and Terms:

ADN:	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
OEL:	Occupational Exposure Limit Value
AS/NZS:	Australian Standards/New Zealand Standards
CAS:	Chemical Abstracts Service
CFR:	Code of Federal Regulations
CLP:	Classification, Labelling and Packaging
DMEL:	Derived minimal effect level
DNEL:	Derived no-effect level
EC50:	Effective Concentration 50%
EC:	European Community
EN:	European Standard
EU:	European Union
IATA:	International Air Transport Association
IBC Code:	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code:	International Maritime Dangerous Goods Code
LC50:	Median lethal concentration
LD50:	Lethal dose 50%
MARPOL:	Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OSHA:	Occupational Safety and Health Administration
PBT:	Persistent, bioaccumulative and toxic
PNEC:	Predicted no-effect concentration
REACH:	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID:	Regulations Concerning the International Carriage of Dangerous Goods by Rail
TLV:	Threshold Limit Value
vPvB:	Very persistent and very bioaccumulative
WEL:	Workplace Exposure Limit

**Date of first version:** 25.08.2020

**Department issuing data sheet:** Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations: