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

· **Product identifier**
  · **Trade name:** Colado CC

· **Relevant identified uses of the substance or mixture and uses advised against**
  No further relevant information available.

· **Application of the substance / the preparation**
  Manufacture of dental prosthesis

· **Details of the supplier of the safety data sheet**
  · **Manufacturer/Supplier:**
  Ivoclar Vivadent Inc.
  175 Pineview Drive, Amherst, N.Y. 14228
  USA
  Tel. +1 800 533 6825
  Fax +1 716 691 2285

  Ivoclar Vivadent Inc.
  1-6600 Dixie Road
  Mississauga, Ontario
  L5T 2Y2
  Canada
  Phone: +1 905 670 8499
  Fax: +1 905 670 3102

· **Information department:** Quality Assurance / Regulatory Affairs

· **Emergency telephone number:**
  24 Hour Emergency Assistance:
  Emergency-Call USA - Infotrac: 1-800-535-5053
  Emergency-Call Canada - Canutec: 1-613-996-6666

  General MSDS Assistance:
  US: 1-800-533-6825
  Canada: 1-800-263-8182

2 Hazards identification

· **Classification of the substance or mixture**
  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.

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
  Irritant
  May cause sensitisation by inhalation and skin contact.
  May cause long-term adverse effects in the aquatic environment.

· **Information concerning particular hazards for human and environment:**
  Avoid breathing of grinding dust and vapours. Melted material may cause burns.

· **Classification system:**
  The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**
  · **GHS label elements**
  The product is classified and labelled according to the Globally Harmonized System (GHS).

(Contd. on page 2)
3 Composition/information on ingredients

- Chemical characterization: Mixtures
- Description: Dental alloy

<table>
<thead>
<tr>
<th>Dangerous components:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-48-4 cobalt</td>
<td>25-100%</td>
</tr>
<tr>
<td>7440-47-3 chromium</td>
<td>25-50%</td>
</tr>
<tr>
<td>7439-98-7 molybdenum</td>
<td>1-&lt;10%</td>
</tr>
<tr>
<td>7440-33-7 tungsten</td>
<td>1-&lt;10%</td>
</tr>
</tbody>
</table>

(Contd. on page 3)
4 First aid measures

- **Description of first aid measures**
  - **General information:** No special measures required.
  - **After inhalation:**
    - Grinding dust: Supply fresh air; consult doctor in case of complaints.
    - In case of unconsciousness place patient stably in side position for transportation.
  - **After skin contact:** After contact with the molten product, cool rapidly with cold water.
  - **After eye contact:**
    - Grinding dust: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
    - Mechanical effects only.
  - **After swallowing:** Seek medical treatment.
  - **Information for doctor:**
    - Most important symptoms and effects, both acute and delayed: No further relevant information available.
    - Indication of any immediate medical attention and special treatment needed: No further relevant information available.

5 Firefighting measures

- **Extinguishing media**
  - Suitable extinguishing agents: The product is not flammable.
- **Special hazards arising from the substance or mixture**
  - No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
  - Not required.
- **Environmental precautions**
  - No special measures required.
- **Methods and material for containment and cleaning up**
  - Pick up mechanically.
- **Reference to other sections**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
  - Extractors are required on all machines used for thermal processing or splinter removal processes.
- **Information about protection against explosions and fires**
  - No special measures required.
- **Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - Requirements to be met by storerooms and receptacles: No special requirements.
    - Information about storage in one common storage facility: Not required.
    - Further information about storage conditions: None.
8 Exposure controls/personal protection

- Additional information about design of technical systems: No further data; see item 7.
- Control parameters

<table>
<thead>
<tr>
<th>Substance</th>
<th>PEL</th>
<th>REL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-48-4 cobalt</td>
<td>0.1*</td>
<td>0.05*</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>mg/m³</td>
<td>mg/m³</td>
<td>mg/m³</td>
</tr>
<tr>
<td></td>
<td>as Co</td>
<td>as Co</td>
<td>as Co</td>
</tr>
<tr>
<td>7440-47-3 chromium</td>
<td>1*</td>
<td>0.5**</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>mg/m³</td>
<td>mg/m³</td>
<td>mg/m³</td>
</tr>
<tr>
<td></td>
<td>as Co</td>
<td>as Co</td>
<td>as Co</td>
</tr>
<tr>
<td>7439-98-7 molybdenum</td>
<td>5*</td>
<td>0.5**</td>
<td>0.5</td>
</tr>
<tr>
<td></td>
<td>mg/m³</td>
<td>mg/m³</td>
<td>mg/m³</td>
</tr>
<tr>
<td></td>
<td>as Mo</td>
<td>as Mo</td>
<td>as Mo</td>
</tr>
<tr>
<td>7440-33-7 tungsten</td>
<td>Short-term value: 10 mg/m³</td>
<td>Long-term value: 5 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and insoluble compounds, as W</td>
<td>and insoluble compounds, as W</td>
<td></td>
</tr>
<tr>
<td>7440-48-4 cobalt</td>
<td>BEI 15 µg/L</td>
<td>Medium: urine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time: end of shift at end of workweek</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parameter: Cobalt (background)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 µg/L</td>
<td>Medium: blood</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time: end of shift at end of workweek</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parameter: Cobalt (background, semi-quantitative)</td>
<td></td>
</tr>
</tbody>
</table>

- Additional information: The lists that were valid during the creation were used as basis.
Trade name: Colado CC

- **Breathing equipment**: Use respiratory protective device against the effects of fumes/dust/aerosol.
- **Protection of hands**: Protective gloves should always be worn during mechanical and thermal processing. After use of gloves apply skin-cleaning agents and skin cosmetics.
- **Material of gloves**
  - Mechanical processing:
    - Leather gloves
    - Strong gloves
  - Thermal processing:
    - Heat protection gloves
- **Penetration time of glove material**
  The exact breakthrough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection**: Always wear safety goggles during mechanical processing (grinding, sawing/cutting, drilling, milling).

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### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
  - **Appearance**:
    - **Form**: Solid
    - **Color**: White
  - **Odor**: Odorless
  - **Odour threshold**: Not determined.
  - **pH-value**: Not applicable.
  - **Change in condition**
    - Melting point/Melting range: 1175–1385 °C (2147–2525 °F)
    - Boiling point/Boiling range: Undetermined.
  - **Flash point**: Not applicable.
  - **Flammability (solid, gaseous)**: Not determined.
  - **Auto igniting**: Product is not self-igniting.
  - **Danger of explosion**: Product does not present an explosion hazard.
  - **Explosion limits**:
    - Lower: Not determined.
    - Upper: Not determined.
  - **Vapor pressure**: Not applicable.
  - **Density at 20 °C (68 °F)**: 8.5 g/cm³ (70.933 lbs/gal)
  - **Relative density**:
    - Not determined.
  - **Vapour density**:
    - Not applicable.
  - **Evaporation rate**:
    - Not applicable.
  - **Solubility in / Miscibility with**
    - Water: Insoluble.
  - **Partition coefficient (n-octanol/water)**: Not determined.
  - **Viscosity**:
    - **Dynamic**: Not applicable.
35.0.51

Kinematic: Not applicable.

· Solvent content:

· Solids content: 100 %
· Other information No further relevant information available.

10 Stability and reactivity

· Reactivity No further relevant information available.
· Chemical stability Stable under normal handling and storage conditions.
· Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
· Possibility of hazardous reactions No dangerous reactions known.
· Conditions to avoid No further relevant information available.
· Incompatible materials: No further relevant information available.
· Hazardous decomposition products: None under normal conditions of storage and use.

11 Toxicological information

· Information on toxicological effects
· Acute toxicity:
· Primary irritant effect:
· on the skin: No irritant effect.
· on the eye: No irritating effect.
· Sensitization:
Sensitization possible through inhalation.
Sensitization possible through skin contact.
· Additional toxicological information:
Fumes or dusts generated from cutting or grinding operations may cause respiratory irritation.
· Carcinogenic categories

  · IARC (International Agency for Research on Cancer)
  7440-48-4 cobalt 2B
  7440-47-3 chromium 3

  · NTP (National Toxicology Program)
None of the ingredients is listed.

12 Ecological information

· Toxicity
· Aquatic toxicity: No further relevant information available.
· Persistence and degradability No further relevant information available.
· Behavior in environmental systems:
· Bioaccumulative potential No further relevant information available.
· Mobility in soil No further relevant information available.
· Additional ecological information:
· General notes: Generally not hazardous for water
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.

(Contd. on page 7)
13 Disposal considerations

- Waste treatment methods
  - Recommendation: Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.

- Uncleaned packagings:
  - Recommendation: Disposal must be made according to official regulations.

14 Transport information

- UN-Number DOT ADR, ADN, IMDG, IATA NA3077 Void

- UN proper shipping name ADR, ADN, IMDG, IATA Void

- Transport hazard class(es)
  - DOT Class 9 Miscellaneous dangerous substances and articles.
  - Label 9

- ADR, ADN, IMDG, IATA Class Void

- Packing group DOT ADR, IMDG, IATA III Void

- Environmental hazards:
  - Marine pollutant: No
  - Not applicable.

Special precautions for user Not applicable.

- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

- UN "Model Regulation": -

15 Regulatory information

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

  - Sara
    - Section 355 (extremely hazardous substances):
      - None of the ingredients is listed.

- Section 313 (Specific toxic chemical listings):
  - 7440-22-4 silver
  - 7440-50-8 copper

(Contd. on page 8)
Trade name: Colado CC

- **TSCA (Toxic Substances Control Act):**
  - 7440-57-5 Gold
  - 7440-22-4 silver
  - 7440-50-8 copper
  - 7440-06-4 platinum
  - 7440-74-6 indium
  - 7439-88-3 iridium

- **Proposition 65**
  - **Chemicals known to cause cancer:** None of the ingredients is listed.
  - **Chemicals known to cause reproductive toxicity for females:** None of the ingredients is listed.
  - **Chemicals known to cause reproductive toxicity for males:** None of the ingredients is listed.
  - **Chemicals known to cause developmental toxicity:** None of the ingredients is listed.

- **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)**
    - 7440-22-4 silver D
    - 7440-50-8 copper D
  - **TLV (Threshold Limit Value established by ACGIH)**
    - None of the ingredients is listed.
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - None of the ingredients is listed.
  - **OSHA-Ca (Occupational Safety & Health Administration)**
    - None of the ingredients is listed.

- **GHS label elements**
  The product is classified and labelled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**
  - GHS08

- **Signal word** Danger

- **Hazard-determining components of labelling:**
  - cobalt

- **Hazard statements**
  - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
  - May cause an allergic skin reaction.

- **Precautionary statements**
  - Avoid breathing dust/fume/gas/mist/vapours/spray.
  - Wear protective gloves/protective clothing/eye protection/face protection.
  - In case of inadequate ventilation wear respiratory protection.
  - Specific treatment (see on this label).
  - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
Trade name: Colado CC

Dispose of contents/container in accordance with local/regional/national/international regulations.

- National regulations:
  - Other regulations, limitations and prohibitive regulations
    The product is a medical device according to the EC-directive 93/42/EEC.
    This product is classified as a medical device under US and Canadian regulations and has been reviewed by the US Food and Drug Administration and Health Canada.
  - Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Abbreviations and acronyms:
  ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  IMDG: International Maritime Code for Dangerous Goods
  DOT: US Department of Transportation
  IATA: International Air Transport Association
  ACGIH: American Conference of Governmental Industrial Hygienists
  NFPA: National Fire Protection Association (USA)
  HMIS: Hazardous Materials Identification System (USA)