1 Identification

- **Product identifier**
- **Trade name:** Spartan Plus
- **Relevant identified uses of the substance or mixture and uses advised against**
  No further relevant information available.
- **Application of the substance / the mixture**
  Manufacture of dental prothesis
- **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 SDS Assistance:
  US: 1-800-533-6825
  Canada: 1-800-263-8182

2 Hazard(s) identification

- **Classification of the substance or mixture**
  Ox. Sol. 2  H272 May intensify fire; oxidizer.
  Skin Corr. 1C  H314 Causes severe skin burns and eye damage.
  Eye Dam. 1  H318 Causes serious eye damage.

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

- **Hazard pictograms**
  ![GHS03](https://example.com)
  ![GHS05](https://example.com)

- **Signal word** Danger
- **Hazard-determining components of labeling:**
  gallium
- **Hazard statements**
  May intensify fire; oxidizer.

(Contd. on page 2)
Trade name: Spartan Plus

Causes severe skin burns and eye damage.

· **Precautionary statements**
  - Keep away from heat.
  - Take any precaution to avoid mixing with combustibles.
  - Wear protective gloves / eye protection / face protection.
  - Wear eye protection / face protection.
  - Do not breathe dusts or mists.
  - Keep/Store away from clothing/combustible materials.
  - Wash thoroughly after handling.
  - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - Immediately call a poison center/doctor.
  - Specific treatment (see on this label).
  - If swallowed: Rinse mouth. Do NOT induce vomiting.
  - Wash contaminated clothing before reuse.
  - In case of fire: Use for extinction: CO2, powder or water spray.
  - Store locked up.
  - Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**
  - Alloys do not require a label, providing they do not present a hazard to human health by inhalation, ingestion or contact with skin or to the aquatic environment in the form in which they are placed on the market.

· **Classification system:**
  - **NFPA ratings (scale 0 - 4)**
    - Health = 1
    - Fire = 0
    - Reactivity = 0

  - **HMIS-ratings (scale 0 - 4)**
    - Health = 1
    - Fire = 0
    - Reactivity = 0

· **Other hazards**
  - Results of PBT and vPvB assessment
    - PBT: Not applicable.
    - vPvB: Not applicable.

· **3 Composition/information on ingredients**
  - **Chemical characterization:** Mixtures
  - **Description:** Dental alloy

  · **Dangerous components:**
    - 7440-05-3 palladium 50-100%
    - 7440-50-8 copper ≤10%
    - 7440-55-3 gallium 2.5-<10%

· **4 First-aid measures**
  - **Description of first aid measures**
  - **General information:** No special measures required.
40.1.5 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 Fire-fighting 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.
· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.
Trade name: Spartan Plus

- Control parameters
  - Components with limit values that require monitoring at the workplace:
    7440-50-8 copper
      - PEL Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume
      - REL Long-term value: 1* 0.1** mg/m³ as Cu *dusts and mists **fume
      - TLV Long-term value: 1* 0.2** mg/m³ *dusts and mists; **fume; as Cu

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

- Exposure controls
  - Personal protective equipment:
    - General protective and hygienic measures: Usually hygienic measures for dental practice.
    - 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 break through 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).

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: 1180–1210 °C (2156–2210 °F)
  - Boiling point/Boiling range: Undetermined.

- Flash point: Not applicable.

- Flammability (solid, gaseous): Not determined.

- Auto igniting: Product is not selfigniting.

- Danger of explosion: Product does not present an explosion hazard.

- Explosion limits:
  - Lower: Not determined.
Safety Data Sheet
acc. to OSHA HCS

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Reviewed on 05/20/2015
Version number 5

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Upper:
- Not determined.
- Vapor pressure:
  - Not applicable.
- Density at 20 °C (68 °F):
  - 10.7 g/cm³ (89.292 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.
  - 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:
  - No sensitizing effects known.
- Additional toxicological information:
  - Fumes or dusts generated from cutting or grinding operations may cause respiratory irritation.
- Carcinogenic categories
  - NTP (National Toxicology Program)
    - None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    - 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.

(Contd. on page 6)
**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**
    - NA3077
  - **ADR, ADN, IMDG, IATA**
    - Void

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

- **Transport hazard class(es)**
  - **DOT**
    - **Class**
      - 9 Miscellaneous dangerous substances and articles
  - **ADR, ADN, IMDG, IATA**
    - **Class**
      - 9
  - **Packing group**
    - **DOT**
      - III
    - **ADR, IMDG, IATA**
      - Void

- **Environmental hazards:**
  - **Marine pollutant:**
    - No

- **Special precautions for user**
  - Not applicable.

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

- **Transport/Additional information:**
  - Product is not classified as a dangerous good for transport (ADR, IMDG, IATA).

- **UN "Model Regulation":**
  - -
Trade name: Spartan Plus

### 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
    - **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
      - 7439-88-5 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.
  - **GHS label elements**
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms**
    - GHS03, GHS05
  - **Signal word** Danger
  - **Hazard-determining components of labeling:**
    - gallium

(Contd. on page 8)
Hazard statements
May intensify fire; oxidizer.
Causes severe skin burns and eye damage.

Precautionary statements
Keep away from heat.
Take any precaution to avoid mixing with combustibles.
Wear protective gloves / eye protection / face protection.
Wear eye protection / face protection.
Do not breathe dusts or mists.
Keep/Store away from clothing/combustible materials.
Wash thoroughly after handling.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Immediately call a poison center/doctor.
Specific treatment (see on this label).
If swallowed: Rinse mouth. Do NOT induce vomiting.
Wash contaminated clothing before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.
Store locked up.
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 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.

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.

Date of preparation / last revision 06/23/2015 / 4

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
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
Ox. Sol. 2: Oxidising Solids, Hazard Category 2
Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

* Data compared to the previous version altered.