

## MATERIAL SAFETY DATA SHEET

FOR PROFESSIONAL USE ONLY BY QUALIFIED AND TRAINED DENTAL LABORATORY TECHNICIANS  
According to Directive 93/112/CE

Established on: 21.01.2004  
Revised on: 4.12.007

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

#### 1.1. Identification of the product

Commercial name: PX EXTRAPALL 6 Alloy N°: 7152  
Art N°: 7152  
Launch: 2004

Description:  
Palladium-based dental bonding alloy

#### 1.2. Identification of the manufacturer/Supplier

Name and address: PX DENTAL  
Champs-Montants 16a  
CH-2074 Marin  
SWITZERLAND  
Tel: 0041 32 924 21 20  
FAX: 0041 32 921 21 29

#### 1.3. Information in case of emergency :

Swiss Toxicology Center, Zürich: +41 (0)1 251 51 51

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

#### 2.1. Composition

description: PALLADIUM-BASED DENTAL ALLOY, free of beryllium, cadmium, cobalt and nickel.

Components:

| N° CAS    | EINECS    | Description | Formal | %    | Phrases "R"  | Hazards symbol |
|-----------|-----------|-------------|--------|------|--------------|----------------|
| 7440-57-5 | 231-165-9 | Gold        | Au     | 6.1  | Not relevant | Not relevant   |
| 7440-22-4 | 231-131-3 | Silver      | Ag     | 6.4  | Not relevant | Not relevant   |
| 7440-06-4 | 231-116-1 | Platinum    | Pt     |      | Not relevant | Not relevant   |
| 7440-05-3 | 231-115-6 | Palladium   | Pd     | 75.0 | Not relevant | Not relevant   |
| 7439-88-5 | 231-095-9 | Iridium     | Ir     |      | Not relevant | Not relevant   |
| 7440-18-8 | 231-127-1 | Ruthenium   | Ru     | < 1  | Not relevant | Not relevant   |
| 7440-16-6 | 231-125-0 | Rhodium     | Rh     |      | Not relevant | Not relevant   |
| 7440-50-8 | 231-159-6 | Copper      | Cu     |      | Not relevant | Not relevant   |
| 7440-74-6 | 231-180-0 | Indium      | In     | 5.9  | Not relevant | Not relevant   |
| 7440-66-6 | 231-175-3 | Zinc        | Zn     |      | Not relevant | Not relevant   |
| 7440-31-5 | 231-141-8 | Tin         | Sn     | < 1  | Not relevant | Not relevant   |
| 7440-55-3 | 231-163-8 | Gallium     | Ga     | 6.0  | Not relevant | Not relevant   |
| 7439-89-6 | 231-096-4 | Iron        | Fe     |      | Not relevant | Not relevant   |
| 7439-96-5 | 231-105-1 | Manganese   | Mn     |      | Not relevant | Not relevant   |
| 7440-25-7 | 231-135-5 | Tantalum    | Ta     |      | Not relevant | Not relevant   |
| 7440-03-1 | 231-113-5 | Niobium     | Nb     |      | Not relevant | Not relevant   |
| 7440-42-8 | 231-151-2 | Boron       | B      |      | Not relevant | Not relevant   |

### 3. HAZARDS IDENTIFICATION

#### 3.1. Risk Identification

This device doesn't contain any element recognized as allergenic. It is free of Nickel, Cobalt and Chromium.  
The cell toxicity was tested according to the ISO 10993 part 5.  
Other important hazards: Not known.

### 4. FIRST-AID MEASURES

**Inhalation:** Avoid generation of dust/powder during fabrication. Powder or dust may cause irritation. No specific information available, get medical attention if required.

**Skin contact:** Avoid contact with hot/molten metal. In case of contact with hot/molten metal cool the burn with cold water. Get medical attention.

**Eye contact:** Not applicable. In case of danger or of projection wear protective glasses.

**Ingestion:** Not applicable.

## 5. FIRE-FIGHTING MEASURES

**Fire hazards/conditions of flammability:** Metal or alloy in bulk form is not combustible. Potential dust explosion hazard may exist if metallic dust particles are contacted by heat, sparks or flame.

**Extinguishing media:** Use media appropriate to the surrounding fire conditions. Fire fighters must use self contained breathing apparatus and wear fully protective clothing.

**Flash point:** Not applicable

**Auto-ignition temperature:** Not applicable

**Flammability limits in air:** Not applicable.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Not applicable

**Environmental precautions:** Not applicable

**Spill response/Cleanup:** Vacuum or sweep up and remove. Avoid generation of dust. The material can be recycled.

**Prohibited materials:** None.

## 7. HANDLING AND STORAGE

**Safe handling procedures:** no special indication

**Storage requirements:** no special indication

**Incompatible materials:** strong acids

**Special packaging materials:** no special indication

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Components with exposure limits

| CAS       | Name      | Code    | Value   | Unit              | Comment    |
|-----------|-----------|---------|---------|-------------------|------------|
| 7440-57-5 | Gold      | TLV-TWA |         | mg/m <sup>3</sup> |            |
| 7440-22-4 | Silver    | TLV-TWA | 0.1     | mg/m <sup>3</sup> |            |
| 7440-06-4 | Platinum  | TLV-TWA | 1       | mg/m <sup>3</sup> |            |
| 7440-05-3 | Palladium | TLV-TWA |         | mg/m <sup>3</sup> |            |
| 7439-88-5 | Iridium   | TLV-TWA | 0.2     | mg/m <sup>3</sup> |            |
| 7440-18-8 | Ruthenium | TLV-TWA |         | mg/m <sup>3</sup> |            |
| 7440-16-6 | Rhodium   | TLV-TWA | < 0.10  | mg/m <sup>3</sup> |            |
| 7440-50-8 | Copper    | TLV-TWA | 1 / 0.2 | mg/m <sup>3</sup> | Fumes/dust |
| 7440-74-6 | Indium    | TLV-TWA | 0.1     | mg/m <sup>3</sup> |            |
| 7440-66-6 | Zinc      | TLV-TWA | 5       | mg/m <sup>3</sup> | Fumes      |
| 7440-31-5 | Tin       | TLV-TWA | 2       | mg/m <sup>3</sup> |            |
| 7440-55-3 | Gallium   | TLV-TWA |         | mg/m <sup>3</sup> |            |
| 7439-89-6 | Iron      | TLV-TWA |         | mg/m <sup>3</sup> |            |
| 7439-96-5 | Manganese | TLV-TWA | 0.2     | mg/m <sup>3</sup> |            |
| 7440-25-7 | Tantalum  | TLV-TWA | 5       | mg/m <sup>3</sup> | dust       |
| 7440-03-1 | Niobium   | TLV-TWA |         | mg/m <sup>3</sup> |            |
| 7440-42-8 | Boron     | TLV-TWA |         | mg/m <sup>3</sup> |            |

### 8.2 Equipment for personal protection

- **Ventilation and engineering controls:** use local exhaust when melting or grinding alloys
- **Respiratory protection:** use a protective respiratory device if dust is produced during working.
- **Protective gloves:** use heat-resistant gloves when working with molten metal
- **Eye protection:** use welder's goggles or face shield when melting, casting or soldering.
- **Other protective equipment:** Not applicable

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                     |                              |
|-------------------------------------|------------------------------|
| Shape                               | 1 g solid rectangular pieces |
| Color                               | White                        |
| Odor                                | Odorless                     |
| pH                                  | Not applicable               |
| Boiling point                       | > 2000°C                     |
| Melting range                       | 1150-1320°C                  |
| Working temperature (casting temp.) | 1450°C                       |
| Flash point                         | Not applicable               |
| Ignition temperature                | Not applicable               |
| Vapor density                       | Not applicable               |
| Density, specific gravity           | 11.6 g/cm <sup>3</sup>       |
| Solubility in water                 | < 1 mg/l                     |
| Volatile organic compounds          | Not applicable               |
| Vapor pressure, evaporation rate    | Not applicable               |
| Other data                          | None                         |

## 10. STABILITY AND REACTIVITY

- **Thermal decomposition:** if the alloy is not overheated the product remains stable. A reduced evaporation of some components (for example zinc) may occur during melting.
  - **Hazardous decomposition products:** none
  - **Conditions to avoid:** not applicable
- Materials to avoid:** strong acids  
**Other information:** none

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Acute toxicity

**inhalation:** LC50 values are not known.

**ingestion:** LD50 values are not known.

**skin:** no irritation known (see also the equipment for personal protection under 8.2)

**eye:** no irritation known (see also the equipment for personal protection under 8.2)

### 11.2. Chronic toxicity

Standard of reference for cell toxicity: ISO 10993/5

According to the specialized literature and to the testing results on similar products, this kind of alloy do not represent a high toxicity level.

### 11.3. Irritation/sensitization

None of the components used in the device is recognized as a potential allergen.

## 12. ECOLOGICAL INFORMATION

**Environmental effects:** Not applicable

**Important environmental characteristics:** Not applicable

**Aquatic toxicity:** Not applicable

## 13. WASTE DISPOSAL

**Handling for disposal:** the product can be recycled by the manufacturer.

**Method of disposal:** recycle or dispose in accordance with Federal, State and Local authorities.

## 14. TRANSPORT INFORMATION

Shipping description: 10 to 50 g packages in plastic pockets.

UN-N°: not applicable

Code IMDG: not applicable

ICAO/IATA: not applicable

RID/ADR: not applicable

The product is not considered as dangerous by the regulation for the transportation of dangerous goods.

## 15. REGULATORY INFORMATION

The MSDS is established according to the Directive 93/112/CE

**WHMIS information:** Not applicable

**CEPA information:** Not applicable

**WHMIS classification:** Not applicable

**TSCA information:** Not applicable

**SARA Title III:** Not applicable

## 16. OTHER INFORMATION

- PX DENTAL is an **ISO 9001 / ISO 13485** certified company. The device was manufactured according to this standard and bears the label CE1250

- MSDS prepared by: Dr. Marc-Henri Zürcher  
Name and address: PX DENTAL  
Champs-Montants 16a  
CH-2074 Marin  
SWITZERLAND  
T. 0041 32 924 21 20  
F. 0041 32 921 21 29

## IMPORTANT NOTICE

### PRODUCT FOR PROFESSIONAL USE

This sheet provides a complement to the product use instructions but does not replace them. The information it contains is based on our current knowledge of the product concerned at the date of drafting. That information is given in good faith and does not in any circumstances remove from the user his duty to be aware of and to follow all legal regulations and statutes covering his activities. The user takes sole responsibility for application of safety measures covering the use of the product he is aware of. We also draw the user's attention to the risks attached to any use of the product for applications for which it was not designed.