

PRODUCT SAFETY DATA

1. Product and Manufacturer.

Product name: **Palaural / EC 430**

Alloys of silver and palladium designed to undergo lost wax casting into custom dental restorations.

Manufactured by:

Cookson Precious Metals Ltd
59-83 Vittoria Street. Birmingham. B1 3NZ. United Kingdom
Telephone: +0044 (0) 121 233 8170 Fax: +0044 (0) 121 233 8150
Emergency contact number: +0044 (0) 121 212 6422

E-mail: dental@cooksongold.com

2. HAZARDS IDENTIFICATION

These alloys are not regarded as being hazardous when subjected to normal use, however users are recommended to carry out their own risk assessment on the processes undertaken in the use of these materials.

Users should note that occupational exposure control standards exist for some of the alloys' components (see paragraph 8) and should remain aware of the need to monitor exposure if powder or fume is produced.

No toxicological data exists for silver or palladium alloys, but they are considered to be of low acute toxicity.

Chronic absorption of silver or silver bearing alloys can cause "Argyria" a blue grey discoloration of various tissues. Localised argyria may occur on the skin as a result of particles becoming embedded in skin or respiratory tract following inhalation of dust. Generalised argyria is recognised by the pigmentation of the skin, eyes and nails and results from the inhalation of silver. This is only normally a result of many years of over exposure to the metal and is not to be expected as a result normal use of any of these alloys providing exhaust ventilation or personal respirator protection is used during processing.

The alloys in powdered form may irritate the eyes and respiratory tract. Contact with the skin is unlikely to cause irritation or allergic reaction.

In the form supplied these alloys are not regarded as reactive.

3. TYPICAL COMPOSITIONS

	Au %	Ag %	Pt %	Pd %	Cu %	Zn %
Palaural/EC430	4	46		30	19	< 2

For commercial reasons, the above data may not be a complete alloy composition. However all elements of a significant content are reported.

4. FIRST AID MEASURES

Due to the non-hazardous nature of the alloys in the supplied form, no specific first aid information can be given. However, in the case of any symptoms which may relate to exposure to fine powder or dust, the following actions are advised.

Inhalation: Remove from exposure and rest in fresh air. Seek medical advice if acute.

Ingestion: Rinse mouth with water and give water or milk to drink. Seek medical advice for large quantities.

Eyes: Irrigate with clean water or isotonic saline solution for 5 minutes. Seek medical advice if symptoms exist.

Skin: Wash with soap and water.

5. FIRE FIGHTING MEASURES

Not flammable. Use any extinguishing medium for surrounding fire.

6. ACCIDENTAL RELEASE MEASURES

Collect up spillage for reuse or recycling.

7. HANDLING AND STORAGE

7.1 Handling

Any process producing fume/dust such as melting, soldering or grinding should be carried out under local exhaust ventilation or personal respiratory protection should be used.

7.2 Storage

No special storage conditions are necessary.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 EXPOSURE CONTROLS

No exact exposure control standards have been established for these alloys, however Health and Safety Executive standards for some component elements have been established and are noted here:

Element	Fume	Dust
Gold		
Platinum		5.0 mg/m ³
Palladium		
Silver	0.1 mg/m ³	
Copper	0.2 mg/m ³	1.0 mg/m ³
Zinc		5.0 mg/m ³
Tin		
Iridium		
Indium	0.1 mg/m ³	0.1 mg/m ³
Manganese	0.5 mg/m ³	
Rhodium	0.1 mg/m ³	

8.2 PERSONAL PROTECTION

Ventilation and Respiratory Protection : To meet T.L.V requirements, efficient local exhaust ventilation or approved respirator protection must be provided wherever heating, grinding or any operation which may cause exposure to dust or fume .

Other Protective Equipment : Gloves and / or suitable protective clothing is required to prevent excessive contact between skin and dust and to prevent contact with the metal at elevated temperatures. Face and / or eye protection is strongly recommended to prevent dust or particles entering the eyes and is regarded as essential during any operation which results in the alloy changing form.

Work / Hygiene Practices : Avoid inhalation or ingestion. Practice good housekeeping. Avoid eating and smoking in the work area. Wash thoroughly before eating and smoking.

9. PHYSICAL and CHEMICAL PROPERTIES

	Palaural/EC430
Appearance	White metal
Odour	No odour
pH	Not applicable
Boiling Point	No data
Melting Point	975-1000°C
Flash Point	Not applicable
Flammability	Not flammable
Autoflammability	Not applicable
Explosive properties	Not explosive
Oxidising Properties	Not oxidising
Vapour Pressure	No data
Solubility	Water - insoluble
Partition Coefficient	Fat - no data

10. STABILITY AND REACTIVITY

The alloys are supplied in a stable condition. No specific reactive hazards are known to Cookson Precious Metals Ltd if they are used in accordance with supplied instructions and for the purpose designed.

11. TOXICOLOGICAL INFORMATION

No data is available for these alloys. In the form supplied they are not classified as hazardous and do not represent hazards.

May cause irritation from the inhalation of dust or fume. Irritation to the eyes if in contact with dust.

12. ECOLOGICAL INFORMATION

These alloys do not present ecological hazards

13. DISPOSAL CONSIDERATIONS

Dispose of waste by the most economic method which may involve recovery by a refinery.

14. TRANSPORT INFORMATION

No restrictions

15. REGULATORY INFORMATION

Labelling according to EEC Directives 93/42 on Medical Devices

EC supply - Non hazardous. No risk or safety phrases as ascribed.

16. OTHER INFORMATION

All information contained within this document relates only to material as supplied from Cookson Precious Metals Ltd. Customers and users are strongly advised to carry out their own COSHH and risk assessment covering the use of this material.

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