

# PRODUCT SAFETY DATA

Attention is drawn to the fact that information contained within this data sheet refers solely to the product in the form supplied. Users are reminded that the product contains mercury, and that they should carry out risk assessments covering its intended use, storage and handling.

In capsule form, the product removes the need for bulk mercury to be measured out and combined with amalgam alloy powder by the user.

The capsule is dosed with a predetermined amount of alloy powder along with (usually) an equal amount of mercury. This is amalgamated by machine trituration prior to opening.

Cookson Precious Metals Ltd recommend however that in carrying out risk assessment, users of this type of restoration material treat the product as they would, pure mercury and base risk assessments on that aspect.

## 1. Product and Manufacturer.

Product Name: DE Non Gamma II  
 Amalgam based restorative material used by Dentists.

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## 2. TYPICAL COMPOSITIONS / INGREDIENTS

	Alloy Component			Mercury Component		
	Ag %	Cu %	Sn %	Zn %		Hg %
Aristaloy 21 / DE Capsules	45	24	31			100

Alloy of Silver, copper, tin, and zinc, supplied in capsule form along with a predetermined amount of mercury, to produce a silver amalgam for dental restorations.

CAS No.                      EEC No.      Index No.                      Symbol   R-Phrases      S-Phrases

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

### 3. HAZARDS IDENTIFICATION

Human health hazards:

#### **Mercury component:**

Toxic by inhalation. Excessive exposure may cause allergic reactions of the skin digestion of respiratory system. Symptoms of mercury poisoning may include muscle tremors, visual disturbance and kidney effects.

#### **Alloy component:**

Avoid inhalation and contact with eyes.

Environmental hazards: May cause adverse effects to the environment. Other information: Keep capsules locked away and out of reach of children.

Avoid release into the environment. Avoid contact with skin, eyes, respiratory and digestive systems.

Physical/chemical hazards: Will corrode a variety of metals.

### 4. FIRST AID MEASURES

General advice: Contains metallic mercury- in case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

Ventilation is recommended when using or handling products containing mercury.

Inhalation: Remove from exposure and rest in fresh air. Seek medical advice if you feel unwell. If not breathing, give artificial respiration.

Ingestion: Obtain medical attention immediately. Drink large amounts of water.

Eyes: Irrigate with clean water. Seek medical advice.

Skin: Wash with soap and water. Remove contaminated clothing. If irritation or allergic reaction occurs, seek medical attention.

### 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Use extinguishing medium for surrounding fire. Do not use direct water stream or allow water runoff to enter sewers and waterways. Remove product from fire if possible if this can be done without risk.

Special protective equipment: Fire fighters should use breathing apparatus and full protective clothing as toxic vapour is released at elevated temperatures.

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Ensure adequate ventilation and using suitable protection- gloves, goggles. Local extraction or approved respirator should be employed if in any doubt.

Environmental precautions: Prevent spillage from entering drains or waterways.

Clean up methods: Collect spillage with a suitable mercury collector or disposal kit. Avoid contact with skin, eyes or inhaling vapour.

Avoid breaking into smaller droplets or creating airborne concentrations.

## **7. HANDLING AND STORAGE**

### **7.1 Handling**

Do not open capsule until mixing has been completed.

Handling procedures should be carried out under dry conditions and where possible in well ventilated areas/under exhaust extraction. Avoid exposed mercury surfaces, skin contact and wear suitable protective clothing (gloves, safety goggles).

Wash thoroughly after handling and keep away from food and drink.

Avoid contact with elevated temperatures or sources of ignition.

### **7.2 Storage**

In the form supplied, product should only be stored in the labelled container supplied and not mixed with other materials. The area chosen for storage should be of low humidity, secure and well ventilated. Max storage temperature <28°C

The product should not be stored near oxidising materials, acids or halogens.

Keep locked up and away from children.

## **8. EXPOSURE CONTROLS and PERSONAL PROTECTION**

### **8.1 EXPOSURE CONTROLS**

Mercury: 8-hour TWA: 0.025 (mg/m<sup>3</sup>)

Alloy: made up of silver, copper, tin and zinc

8-hour TWA Silver 0.010 (mg/m<sup>3</sup>) (estimated from elemental data).

Tin 2.0 (mg/m<sup>3</sup>)

Copper 1.0 (mg/m<sup>3</sup>)

### **8.2 PERSONAL PROTECTION**

Ventilation and Respiratory Protection : Provide adequate ventilation.

Hands and body: Gloves and or suitable protective clothing is required to prevent contact with skin

Eyes: Eye protection is strongly recommended.

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

General: Although in encapsulated form, exposure should be minimised, care should be taken when using products containing mercury. Precautions should be taken to avoid exposure to mercury vapour and contact with skin and eyes.

Waste amalgam and empty capsules should be collected for disposal in a manner to protect those who handle the waste and the environment.

Suitable mixing machines should be employed and product should be used as directed and for its intended purpose only.

## **9. PHYSICAL and CHEMICAL PROPERTIES**

Form and colour: silver alloy powder and mercury metallic liquid in a plastic capsule.

Odour: None

Boiling Point: 357°C (Mercury)

Melting Point: -39°C (Mercury)

Flash point: not available

Specific gravity: 16.3g/cm<sup>3</sup> (Mercury)

Solubility in water: Insoluble

(Continued)

pH value: Not available

Vapour pressure: 0.0012 mm of Hg @ 20°C (Mercury)

Flammability: Not flammable (but gives off fumes at elevated temperatures)

## 10. STABILITY AND REACTIVITY

Stability: The product is stable under normal conditions

Conditions/Materials to avoid: Avoid exposure to heat and mixing with other products. Avoid strong oxidisers

Hazardous reactions: As a finely divided powder, the powder component can react violently with acids, halogens, halocarbons and oxidising materials. At elevated temperatures, the powder may react with water. Mercury amalgamates with most metals and is reactive with chlorine, ammonia, acetylene, acids.

Hazardous decomposition products: Mercury is vapour releasing and when exposed to high temperatures, emits toxic fumes.

## 11. TOXICOLOGICAL INFORMATION

Acute Data: LCLo-inhalation/Rabbit 29mg/m<sup>3</sup>/ 30 hour (Mercury)

Chronic Toxicity: Excessive exposure may cause symptoms of mercury poisoning which may include- visual disturbance, tremors, kidney effects, respiratory effects.

## 12. ECOLOGICAL INFORMATION

May cause adverse effects in aquatic environment.

Avoid release into the environment.

## 13. DISPOSAL

Product residues/packaging: Any waste containing or suspected of containing mercury should be handled with caution, clearly marked and sent for recovery to a company specialising in this type of material. This should also include empty capsules after use and should be treated as hazardous under local regulations.

Cookson Precious Metals Ltd does not accept responsibility for product once mixed or the disposal of such materials.

## 14. TRANSPORT

Proper shipping name: MERCURY:

UN Number: 2809 Max: 35 kg

ADR/IMDG Class 8, Corrosive, Packing group 3, c

Labels: Corrosive.

Hazard ID: 80 Air packaging instructions ref 803

## 15. REGULATORY INFORMATION

Labelling according to EEC Directives 93/42 on Medical Devices

Contains mercury

Toxic by inhalation

Danger of cumulative effects

Keep container tightly closed.

In case of accident or feeling unwell, seek medical advice immediately (show label where possible)

(Continued)

UN ref: 2809

(continued)

Observe National regulations for UN 2809

Risk Phrases: R26/27/28 R33 R61 R48/23 R50/53

Safety Phrases: S1/2 S3/7 S45 S60 S61 S36/37/39 S60

Hazard symbols:



## 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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