

# Material Safety Data Sheet

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## 1.0 IDENTIFICATION OF SUBSTANCE

- 1.1 Product Code :  
 1.2 Product Description : Bronze powder - fine grades

## 2.0 COMPOSITION

Chemical	CAS Number	ECC Number
Copper	7440-50-8	231-159-6
Zinc	7440-66-6	231-117-3
Aluminium	7429-90-5	231-072-3

## 3.0 PHYSICAL AND CHEMICAL PROPERTIES

- 3.1 Appearance : gold coloured powder.  
 3.2 Odour : Very slight odour.  
 3.3 Ph : N/A  
 3.4 Boiling Point : 2600°C  
 3.5 Melting Point : 1100°C  
 3.6 Flash Point : N/A  
 3.7 Flammability : Flammable  
 3.8 Auto Flammability : 150°C  
 3.9 Explosive Properties : N/A  
 3.10 Oxidising Properties : N/A  
 3.11 Vapour Pressure : N/A  
 3.12 Density : 8.3 - 8.7 g/cm<sup>3</sup>  
 3.13 Solubility : Insoluble in water

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#### 4.0 FIRE FIGHTING MEASURES

##### 4.1 Extinguishing Agents

Dry sand is the most effective extinguishing agent. Water and foam may be used at low pressure.

##### 4.2 Special Fire Fighting Procedures

Do not use high pressure extinguishers or water jets.

##### 4.3 Protection Requirements

Wear fire fighting equipment as necessary for the incident.

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#### 5.0 STABILITY AND REACTIVITY

##### 5.1 Stability

Product is stable under normal conditions.

##### 5.2 Conditions to Avoid

Heat, sparks, open flames and other sources of ignition.

##### 5.3 Materials to Avoid

Acetylene gas, bromates, chlorates, iodates, potassium dioxide, oxidising agents.

##### 5.4 Decomposition Products

Metal oxides, carbon dioxide, water.

##### 5.5 Other Known Hazards

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#### 6.0 TOXICOLOGICAL INFORMATION

**Acute :** Inhalation of Bronze Powder at high concentrations may cause symptoms similar to metal fume fever - influenza type symptoms which last for 24-48 hours.

**Chronic :** No effects known.

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#### 7.0 ECOLOGICAL INFORMATION

This product consists of copper and zinc, with small amounts of aluminium. Although all these elements are present naturally in the environment, high environmental concentrations of copper, zinc may have a effect on aquatic organisms. EC50 = 0.2 mg/dm<sup>3</sup> (Microtox® analysis)

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## 8.0 HANDLING AND STORAGE

Powder should be handled carefully to minimise dust creation. Whenever possible, use a closed system to contain any dust emission. Where manual handling of powder is unavoidable use local exhaust ventilation. Ensure good standards of housekeeping are kept. Keep containers closed when not in use. Store in a dry place at ambient temperatures. Store away from heat, open flames and store away from incompatible materials.

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## 9.0 EXPOSURE STANDARDS / PERSONAL PROTECTION

### 9.1 Occupational Exposure Standards

None assigned - manufacturer recommended figure. 10 mg/m<sup>3</sup> 8 hour time weighted average (nuisance dust).

### 9.2 Ventilation

Preferably local exhaust ventilation. This must be adequate to keep exposure below the occupational exposure standard.

### 9.3 Respiratory Protection

Where adequate ventilation cannot be provided, personal respiratory equipment must be used.

### 9.4 Skin Protection

May be used if handling large quantities.

### 9.5 Eye Protection

May be used if handling large quantities.

### 9.6 Other Special Requirements

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## 10.0 FIRST AID MEASURES

### 10.1 Eye Contact

Flush with copious amount of water. If irritation persists, seek expert medical attention.

### 10.2 Skin Contact

Wash with soap and water. Remove heavily contaminated clothing and launder before re-use.

**10.3 Inhalation**

Remove affected person from exposure. Keep warm and quiet. Treat symptomatically - administer oxygen if required. Get medical help.

**10.4 Ingestion**

Not normally considered as an industrial hazard. If a large quantity is ingested seek medical attention.

**IN ALL CASES IF SYMPTOMS ARE SEVERE, SEEK EXPERT MEDICAL ATTENTION**

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**11.0 ACCIDENTAL RELEASE MEASURES / SPILLAGE****11.1 Protection Requirements**

Wear appropriate protective clothing - Remove any sources of ignition.

**11.2 Environmental Precautions**

Prevent material from entering surface drains or water courses.

**11.3 Cleaning**

Preferably use mechanical means or vacuum cleaners. Where this is not possible, carefully sweep up spilled material and transfer to suitable containers

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**12.0 DISPOSAL****12.1 Substance As Supplied**

Material can be recycled or disposed of by a licensed disposal company.

**12.2 Product Packaging**

Product packaging may be recycled or re-used.

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**13.0 TRANSPORT INFORMATION**

METAL POWDER, FLAMMABLE, n.o.s  
UN NO. 3089 CLASS 4.1  
PACKING GROUP II  
MARINE POLLUTANT

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**14.0 REGULATORY INFORMATION**

1. COSHH 1988
  2. EH40 Occupational Exposure Standards
  3. The Chemicals (Hazard Information and Packaging) Regs. 1993.
- All raw materials are listed in TSCA and EINICS.

The product complies with : CONEG Regulations, EN71, BGA approved

Users must make their own assessment of the risk encountered in their own individual workplace. The information contained in this sheet will provide the basic information required to undertake these assessments.

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## 15.0 HAZARD IDENTIFICATION

Low hazard

The main hazards associated with the use of this product are fire- the powder is quite difficult to extinguish once alight and there is an acute hazard by inhalation - inhalation of large quantities may cause metal fume fever which gives rise to symptoms similar to influenza and lasts for 1 - 2 days

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## 16.0 OTHER INFORMATION

### 16.1 Recommended Uses and Restrictions

There are several uses for this product, primarily as a metallic pigment for gold effect applications.

### 16.2 Data Sources

Dangerous Properties of Industrial Materials. N.Irving Sax and R.J.Lewis.

### 16.3 Training Information

Information contained in this data sheet must be provided to all employees using this product.

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**THIS MSDS COMPLIES WITH THE EUROPEAN DIRECTIVES OF 5/3/91 DEFINING AND LAYING DOWN THE DETAILED ARRANGEMENTS FOR SPECIFIC INFORMATION RELATING TO DANGEROUS MATERIALS AND PREPARATIONS IN IMPLEMENTATION OF ARTICLE 10 OF DIRECTIVE 88/379/EEC AND LISTED IN ARTICLE 3 OF DIRECTIVE 91/155/EEC.**