

# SAFETY DATA SHEET

## GB001 Bare Copper based brazing rods.



Version number: 2  
Replaces SDS: 2009-11-23  
Issued: 2014-04-01

**Not for sale in the USA**  
**Ensure that this SDS is received by the appropriate person**

### Section 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### 1.1 Product identifier

**Trade name** BOC Silicon Bronze CZ6, BOC Flux Impregnated Rod, and BOC Copper Phosphorous

**Article-no**

Product/Article	Diameter(mm)	Packaging (kg)	Part Number
BOC SILICON BRONZE CZ6 ROD	1.6	2.5	35481
	2.4	2.5	35482
	3.2	2.5	35483
BOC FLUX IMPREGNATED ROD	1.6	2.5	35484
	2.4	2.5	35486
	3.2	2.5	35487
BOC FLUX COATED ROD	3.2	2.5	35488
BOC COPPER PHOSPHOROUS ROD	2.4	2.5	35489
BOC SILICON BRONZE CZ6 ROD	1.6	1.0	35507
	3.2	1.0	35509
BOC FLUX IMPREGNATED ROD	2.4	1.0	35510
	3.2	1.0	35511
BOC FLUX COATED ROD	2.4	1.0	35512
BOC COPPER PHOSPHOROUS ROD	3.2	1.0	35513
	2.4	1.0	35514

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Article type** Gas Brazing: Bare copper based brazing rod Classification: BS EN ISO 17672

**Use** Oxy-Fuel brazing

#### 1.3 Details of the supplier of the safety data sheet

**Supplier** BOC Limited

**Street address** Customer Service Centre, Priestley Road,  
Worsley, Manchester, M28 2UT,  
United Kingdom

**Telephone** +44 (0)800 111 333

**Fax** +44 (0)800 111 555

**Email** custserv@boc.com

#### 1.4 Emergency telephone number

**Available outside office hours** Yes

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**Emergency phone number** +44 (0)800 111 333

Other

**Additional product information** Web site [www.BOCOnline.co.uk](http://www.BOCOnline.co.uk)

### Section 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1271/2008 [CLP] applicable

#### 2.2 Label elements

Not applicable

#### 2.3 Other hazards

Do not touch hot parts.

Overexposure to the fumes and gases can give rise to dryness of the nose, throat and eyes, respiratory irritation and, in some cases, longer term health effects such as irreversible central nervous system damage and lung deposits.

### Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.1 Substances

This product is a mixture and please refer to Section 3.2

#### 3.2 Mixtures

BS EN ISO 17672 Classification	Cu	Zn	Sn	Mn	P	Si
CuP 180 <sup>1</sup>	Balance	-	-	-	6.6- 7.4	-
Cu 471 <sup>2</sup>	56,0/60,0	Remainder	0,2/0,5	0,05/0,25	-	0,15/0,25

1. Maximum impurity limits applicable to all types are (% by mass) Al 0,01, Bi 0,030, Cd 0,010, Pb 0,025, Zn 0,05, Zn + Cd 0,05; total of all impurities = 0,25.

2. Maximum impurity limits applicable to all types are (% by mass) Al 0,01, As 0,01, Bi 0,01, Cd 0,010, Fe 0,25, Pb 0,025, Sb 0,01; total impurities (excluding Fe) 0,2.

### Section 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Inhalation** IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms occur.

**Skin contact** Burns should be treated by a doctor.

**Eye contact** Generally not applicable

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**Ingestion** Contact a doctor if more than an insignificant amount has been swallowed.

#### 4.2 Most important symptoms and effects, both acute and delayed

**Inhalation** Inhalation of vapours may cause irritation of the respiratory system in very susceptible persons. Copper, magnesium, aluminium, antimony, iron, manganese, nickel, zinc (and their compounds) in brazing all give rise to thermally produced particulates of smaller dimension than may be produced if the metals are divided mechanically. Where insufficient ventilation or respiratory protection is available these particulates may produce "metal fume fever" in workers from an acute or long term exposure.  
Onset occurs in 4-6 hours generally on the evening following exposure.

#### 4.3 Indication of any immediate medical attention and special treatment needed

Not applicable

### Section 5. FIRE-FIGHTING MEASURES

#### 5.1 Extinguishing media

**Suitable extinguishing media** There is no restriction on the type of extinguisher which may be used.  
Use extinguishing media suitable for surrounding area

#### 5.2 Special hazards arising from the substance or mixture

Not applicable

#### 5.3 Advice for fire fighters

**Special protective equipment for fire fighters** Wear self contained breathing apparatus

### Section 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits. Use respiratory equipment when brazing in a confined space. Wear protective clothing and eye protection appropriate to welding. Skin contact should be avoided to prevent possible allergic reactions.

#### 6.2 Environmental precautions

Try to prevent the material from entering drains or water courses.

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### 6.3 Methods and material for containment and cleaning up

Not applicable

### 6.4 Reference to other sections

For *Personal protection* see section 8. For *Disposal* see section 13. For *Environmental precautions* see section 12. For *Precautions for safe handling* see 7.1.

## Section 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

#### Preventive handling precautions

Ensure adequate ventilation for the welder and others. Use respiratory equipment when brazing in a confined space. Wear protective clothing and eye protection appropriate to welding. Remove all flammable materials and liquids before welding.

#### General hygiene

Wash hands before breaks and immediately after handling the product.

### 7.2 Conditions for safe storage, including any incompatibilities

Store welding consumables inside a room without humidity. Do not store welding consumables directly on the ground or beside walls. Store away from chemical substances like acids which could cause chemical reactions.

### 7.3 Specific end use(s)

Welding process.

## Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

Welding fume component	CAS No.	ES-TWA <sup>1</sup>	ES-STEL <sup>1</sup>
Copper, fume	7440-50-8	0.2	
Manganese and its inorganic compounds (as Mn)	7439-96-5	0.5	
Zinc oxide, fume	1314-13-2	5	10
Nickel and its inorganic compounds			
Water soluble		0.1	
Water insoluble		0.5	
Silver compounds (as Ag)		0.01	
Diphosphorus pentoxide	1314-56-3		2
Tin compounds, inorganic (as Sn)	7440-31-5	2	4
Iron oxide fume (as Fe)	1309-37-1	5	10

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Silica, amorphous (total inhalable dust)	-	6	
(respirable dust)		2.4	
Carbon Dioxide	124-38-9	5000ppm	15000ppm
Carbon Monoxide	630-08-0	30ppm	200ppm

<sup>1</sup> As recommended by the MAK Commission based on scientific experience and is not established law.

### 8.2 Exposure controls

*Environmental Exposure Control = Refer to Section 6 of this SDS*

<b>Technical precaution measures</b>	General ventilation and local fume extraction must be adequate to keep fume concentrations within safe limits.
<b>Eye / face protection</b>	Wear eye protection appropriate for welding.
<b>Safety gloves</b>	Skin contact should be avoided to prevent possible allergic reactions.
<b>Other skin protection</b>	Wear body protection which helps to prevent injury from radiation, sparks and electric shock.
<b>Respiratory protection</b>	Use respiratory equipment when welding in a confined space. Wear protective clothing and eye protection appropriate to arc welding.

## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance, colour</b>	Metal rods; does not mix with water
<b>Appearance, physical state</b>	Rod
<b>Auto-ignition temperature</b>	Not applicable
<b>Auto-inflammability</b>	Not auto-flammable
<b>Decomposition temperature</b>	Not applicable
<b>Evaporation rate</b>	Not applicable
<b>Explosive properties</b>	Not explosive
<b>Flammability (solid gas)</b>	Not applicable
<b>Flash point</b>	Not applicable
<b>Form</b>	Fast
<b>Initial boiling point and boiling range</b>	Not applicable
<b>Melting point / Freezing point</b>	Not applicable

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<b>Odour</b>	Odourless
<b>Odour threshold</b>	Not applicable
<b>Oxidising properties</b>	Not applicable
<b>Partition coefficient: n-octanol / water</b>	Not applicable
<b>pH value</b>	Not applicable
<b>Relative density</b>	Not applicable
<b>Solubility</b>	Not applicable
<b>Solubility in water</b>	Insoluble
<b>Upper / lower flammability or explosive limits</b>	Not applicable
<b>Vapour density</b>	Not applicable
<b>Vapour pressure</b>	Not applicable
<b>Viscosity</b>	Not applicable
<i>9.2 Other information</i>	
	Not applicable
Other	
<b>Density</b>	8.96g/cm <sup>3</sup>

### Section 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

Not applicable

#### 10.2 Chemical stability

Stable at normal conditions.

#### 10.3 Possibility of hazardous reactions

Not applicable

#### 10.4 Conditions to avoid

None under normal conditions

#### 10.5 Incompatible materials

Not applicable

#### 10.6 Hazardous decomposition products

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Welding fumes and gases. Additional fume may arise from coatings and contaminants on the base material.

Welding fume component	CAS No.	Classification (67/548EEC)	CLP (1272/2008)		Concentration of classified fume components
Copper oxide (Cu)	1317-38-0	-	-	-	30.0 to 60.0
Zinc (Zn)	7440-66-6	-	-	-	30.0 to 60.0
Nickel (Ni)	7440-02-0	R40: Limited evidence of carcinogenic effect R43: May cause sensitisation by skin contact R48/23: Toxic danger of serious damage to health by prolonged exposure through inhalation R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment	Carc. 2 Skin sens 1 STOT RE 1	H351 H317 H372	0.0 to 15.0
Manganese (Mn)	7439-96-5	-	-	-	0.0 to 5.0
Silicon (Si)	7440-21-3	-	-	-	0.0 to 1.0
Tin compounds (Sn)	7440-31-5	-	-	-	0.0 to 5.0
Iron oxide (Fe)	1332-37-2	-	-	-	Not specified

Classification	H phrase	Text
Skin sensitiser: Category 1	H317	May cause an allergic skin reaction
Carcinogenicity: Category 2	H351	Suspected of causing cancer
STOT RE: Category 1	H372	Causes damage to organs

The classification information above relates to the fume during use

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### Section 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

Conditions to avoid: none in the form supplied

When welding, fumes and gases generated can be dangerous to health.

<b>Acute toxicology</b>	Excessive exposures may affect human health, as follows: Aspiration may cause pulmonary oedema and pneumonitis Short-term overexposure can cause dizziness, nausea and irritation of the nose, throat or eyes.
<b>Irritation</b>	Not applicable
<b>Corrosive effects</b>	Not applicable
<b>Sensitisation</b>	May cause sensitisation by skin contact
<b>Mutagenicity</b>	Not applicable
<b>Carcinogenicity</b>	Welding fumes are possibly carcinogenic to humans
<b>Repeated dose toxicity</b>	Not applicable
<b>Reproductive toxicity</b>	Not applicable

### Section 12. ECOLOGICAL INFORMATION

#### 12.1 Toxicity

Not Available. Refer to individual constituents

#### 12.2 Persistence and degradability

Not applicable

#### 12.3 Bio accumulative potential

No data available

#### 12.4 Mobility in Soil

Not applicable

#### 12.5 Results of PBT and vPvB assessment

Not applicable

#### 12.6 Other adverse effects

Not applicable



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**Section 13. DISPOSAL CONSIDERATIONS**

*13.1 Waste treatment methods*

**Disposal considerations** Dispose of any product, residue or packing material according to national and local regulations. Spent fume extraction filters shall be disposed of as dangerous waste.

Other

**Waste code (EWC)** 12 01 13 - welding waste

**Section 14. TRANSPORT INFORMATION**

*14.1 UN number*

Not applicable

*14.2 UN proper shipping name*

Not applicable

*14.3 Transport hazard class(es)*

Not applicable

*14.4 Packing group*

Not applicable

*14.5 Environmental hazards*

Not applicable

*14.6 Special precautions for user*

Not applicable

*14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code*

Not applicable

Other

**Dangerous goods** No

**Section 15. REGULATORY INFORMATION**

*15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture.*

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**EU regulations** *The product does not need to be labelled in accordance with EC directives or respective national laws.*

**National regulations** *EH40/2005 Workplace exposure limits  
The Waste Regulations 2011 No. 988  
Local laws and regulations should be carefully observed.*

15.2 Chemical safety assessment

*Not applicable*

### Section 16. OTHER INFORMATION

**References to key literature and data sources** Regulation (EC) No 1907/2006 of the European Parliament and of the Council, (REACH).  
Regulation (EC) No 1272/2008 of the European Parliament and of the Council.  
EH40/2005 Workplace exposure limits.  
The Waste regulations 2011 No.988  
C&L Inventory database  
Annex VI CLP Regulation (EC) 1272/2008

**Phrase meaning**

H317	May cause an allergic skin reaction
H351	Suspected of causing cancer
H372	Causes damage to organs

Other

**Manufacturer's notes** *Read this Safety Data Sheet carefully and become aware of hazards implied and the safety information.*

End of document