

In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

## SAFETY DATA SHEET

### Ag/Cu/P alloys

#### SECTION 1: Identification of the substance/mixture and of the company/company

##### 1.1. Product identifier

Trade name	Standard
METALLI 18P	EN ISO 17672:2016 – CuP 286
METALLI 15P	EN ISO 17672:2016 – CuP 284
METALLI 6P	EN ISO 17672:2016 – CuP 283
METALLI 5P	EN ISO 17672:2016 – CuP 281
METALLI 2P	EN ISO 17672:2016 – CuP 279
METALLI Cu-1	EN ISO 17672:2016 – CuP 180
METALLI Cu-2	EN ISO 17672:2016 – CuP 389
METALLI Cu-3	EN ISO 17672:2016 – CuP 179

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

Relevant identified uses of the substance or mixture: **Brazing material (filler metal)**

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

**Company name and address:** Metalli A/S  
Nyholms Allé 46  
2610 Rødovre  
Denmark

**Telephone:** +45 36700544

**Email:** [info@metalli.dk](mailto:info@metalli.dk)

**Homepage:** [www.metalli.dk](http://www.metalli.dk)

##### 1.4. Emergency phone

In the event of a chemical emergency (fire, exposure, accident), contact the following:

Denmark	+45 82 12 12 12 (The Poison Information Centre)
Finland	+358 9 471 977
Ireland	+353 (0)1 809 2566
Iceland	+354 543 22 22
Mexico	+52 55 41696225

In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

<b>Norway</b>	+47 22 59 13 00
<b>Poland</b>	+48 42 2538 400/401
<b>Switzerland</b>	145
<b>Sweden</b>	112 – ask for the Poison Information Centre
<b>UK</b>	+44 0 800 680 0425

## SECTION 2: Hazard identification

Classified according to Regulation (EC) No. 1272/2008 of the European Parliament and of the Council (CLP).

### 2.1. Classification of the substance or mixture

The product is not classified as dangerous according to the provisions of EU Regulation 1272/2008 (CLP) (and subsequent amendments and additions)

**Most significant damage effects:**

Prolonged exposure to welding fumes and particles poses a risk of developing asthmatic diseases, various respiratory disorders and a risk of developing cancer in the respiratory organs. Harmful by inhalation of fumes from or skin contact with molten metal.

### 2.2. Labeling elements

This product is subject to the special label rules from section 1.3 of Annex I of the CLP legislation.

## SECTION 3: Composition of/information on ingredients

### 3.1. Substances

Does not apply. This product is a mixture.

### 3.2. Mixtures

Product/Substance	Identifiers		%w/w	Remark
<b>Silver</b>	CAS no:	7440-22-4	0 - 20 %	[1]
	EC no.:	231-131-3		
	REACH:	01-2119555669-21		
<b>Copper</b>	CAS no:	7440-50-8	70 - 96 %	[2]
	EC no.:	231-159-6		
	REACH:	01-2119480154-42		
<b>Phosphorus</b>	CAS no:	7723-14-0	4 - 9 %	
	EC no.:	231-768-7		
	REACH:	01-2119448009-39		
<b>Antimony</b>	CAS no:	7440-36-0	0 - 3 %	
	EC no.:	231-146-5		

In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

	REACH:	01-2119475613-35-0000	
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Occupational hygiene limit values are mentioned in point 8, if they are available.

[1] The substance is included in the EU's occupational exposure limit value list.

[2] The substance has a national limit value.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

<b>In general:</b>	In case of accident: Contact a doctor or emergency room - bring the label or this safety data sheet with you. In case of persistent symptoms or in doubt about the injured person's condition, seek medical attention. Never give water or the like to an unconscious person.
<b>Inhalation:</b>	In case of breathing difficulties or other irritation of the respiratory tract: Bring the person to fresh air and keep the person under supervision.
<b>Skin contact:</b>	Wash skin that has been in contact with the material thoroughly with soap and water. Skin cleanser can be used. DO NOT use solvents or thinners. In case of skin irritation: Seek medical attention.
<b>Eye contact:</b>	In case of contact with the eyes: Rinse immediately with water or salt water (20-30 °C) for at least 5 minutes. Remove any contact lenses. Seek medical attention and continue rinsing during transport there.
<b>Intake:</b>	IF SWALLOWED: Immediately call a POISON CENTRE/doctor. Rinse your mouth thoroughly and drink 1-2 glasses of water in small sips. Do not induce vomiting. If vomiting occurs, keep the head low so that stomach contents do not enter the lungs. Call a doctor or an ambulance.

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

Prolonged exposure to welding fumes and particles poses a risk of developing asthmatic diseases, various respiratory disorders and a risk of developing cancer in the respiratory organs. Harmful by inhalation of fumes from or skin contact with molten metal.

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

IF exposed or suspected of exposure: Seek immediate medical attention.

**Information for the doctor:** Bring this safety data sheet or the label from the material.

## SECTION 5: Fire fighting

### 5.1. Extinguishing media

**Suitable extinguishing media:** Alcohol-resistant foam, carbonic acid, powders, water mist.

**Unsuitable extinguishing media:** Water jets should not be used as they can spread the fire.

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## 5.2. Special hazards associated with the substance or mixture

The product is not immediately flammable. Avoid inhalation of vapors and fumes - seek fresh air.

## 5.3. Instructions for firefighters

If it can be done without danger, containers are removed from the area at risk of fire. Avoid inhalation of vapors and fumes - seek fresh air.

# SECTION 6: Precautions against accidental release

## 6.1. Personal safety measures, personal protective equipment and emergency procedures

### For non-response personnel:

Use protective glasses if there is a risk of dust in the eyes.  
In case of insufficient ventilation, respiratory protection must be used. Use gloves.

### For emergency personnel:

In addition to the above: Normal emergency clothing corresponding to EN 469 is recommended.

## 6.2. Environmental protection measures

Avoid discharge into lakes, streams, sewers, etc. Contact the local environmental authorities in the event of a release to the surroundings.

## 6.3. Methods and equipment for containment and purification

Spillage is swept up/collected for any recycled or transferred to suitable waste containers. Avoid sweeping - use a vacuum cleaner to pick up spills.

## 6.4. Reference to other points

See point 13 "Disposal" on waste management.  
See Section 8 "Exposure Controls/Personal Protective Equipment" for protective measures.

# SECTION 7: Handling and storage

## 7.1. Precautions for safe handling

If there is a risk of dust generation, and when working with a heated product, sufficient ventilation must be established to remove dust/vapours from the workplace. There must be access to running water and an eyewash station. Wash hands before breaks, toilet visits, and after work.

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

Store securely, out of the reach of children and not together with food, feed, medicines etc. Must be stored dry.

## 7.3. Special uses

None.

# SECTION 8: Exposure controls/personal protective equipment

## 8.1. Control parameters

In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

**Limit values**

Silver, cas no 7440-22-4		
Country / organization	TWA/(8h) [mg/m <sup>3</sup> ]	STEL/(15 min) [mg/m <sup>3</sup> ]
ACGIH	0.1 (1)	-
European Union (IOELV)	0.1	-
Denmark	0.01	0.02
Poland	0.05 (2)	-
Norway	0.1	-
Switzerland	0.1(3)	0.8 (3)

Copper, cas no 7440-50-8				
Country / organization	TWA/(8h) [mg/m <sup>3</sup> ]			STEL/(15 min) [mg/m <sup>3</sup> ]
ACGIH	0.2 (1)			-
Denmark	0.1 (5)	1 (4)		0.2 (5)   2 (4)
Sweden	0.01 (2)	0.2 (5)	1 (4)	-
Poland	0.2 (6)			-
Norway	0.1(5)			-
Switzerland	0.1(3)			0.2 (3)

Phosphorus, cas no 7723-14-0		
Country / organization	TWA/(8h) [mg/m <sup>3</sup> ]	STEL/(15 min) [mg/m <sup>3</sup> ]
ACGIH	0.2	-
Denmark	0.1	0.2
Norway	0.1 (7)	-
Switzerland	0.02 (3)	0.02 (3)

- (1) = Dust and flue gas                      (2) = Inhalable fraction                      (3) = Inhalable aerosol  
 (4) = Dust and fog                              (5) = Flue gas                                      (6) = As Cu  
 (7) = Yellow phosphorus

**Predicted no-effect concentration – PNEC**

Silver, cas no 7440-22-4	
Exposure	Value
Fresh water	0.04 mg/L
Sea water	0.86 mg/L

In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

Rural environment	0.794 mg/kg/d
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<b>Copper, cas no 7440-50-8</b>	
<b>Exposure</b>	<b>Value</b>
Fresh water	7.8 µg/L
Sea water	5.2 µg/L
Sediment (fresh water)	87 mg/kg (dry weight)
Sediment (Seawater)	675 mg/kg (dry weight)
Soil	65 mg/kg (dry weight)

<b>Antimony, cas no 7440-36-0</b>	
<b>Exposure</b>	<b>Value</b>
Fresh water	0.113 mg/L
Sea water	0.011 mg/L
Sediment (fresh water)	11.2 mg/kg (dry weight)
Sediment (Seawater)	2.24 mg/kg (dry weight)
Soil	37 mg/kg (dry weight)

### **Health – Derived no-effect level – DNEL/DMEL**

#### **DNEL - Workers**

<b>Copper, cas no 7440-50-8</b>	
<b>Exposure</b>	<b>Value</b>
Dermal (Acute short-term exposure – systemic effects)	273 mg/kg bw/day
Dermal (Long-term exposure – systemic effects)	137 mg/kg bw/day
Inhalation (Acute short-term exposure – local effects)	1 mg/m <sup>3</sup>
Inhalation (Long-term exposure – local effects)	1 mg/m <sup>3</sup>

<b>Antimony, cas no 7440-36-0</b>	
<b>Exposure</b>	<b>Value</b>
Dermal (Long-term exposure – systemic effects)	56.4 mg/kg bw/day

In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

Inhalation (Long-term exposure – local effects)	0.263 mg/m <sup>3</sup>
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#### DNEL – General population

Copper, cas no 7440-50-8	
Exposure	Value
Dermal (Acute short-term exposure – systemic effect)	273 mg/kg bw/day
Dermal (long-term exposure – systemic effects)	137 mg/kg bw/day
Inhalation (acute short-term exposure – local effects)	1 mg/m <sup>3</sup>
Inhalation (long-term exposure – local effects)	1 mg/m <sup>3</sup>
Oral (long-term exposure – systemic effects)	41 µg/m <sup>3</sup>

Antimony, cas no 7440-36-0	
Exposure	Value
Dermal (Long-term exposure – systemic effects)	28 mg/kg bw/day
Inhalation (Long-term exposure – local effects)	0.08 mg/m <sup>3</sup>
Oral (long-term exposure – systemic effects)	28 mg/kg bw/day
Oral (Acute short-term exposure – systemic effects)	1.2 mg/kg bw/day

## 8.2. Exposure control

### Appropriate exposure control measures:

Use protective equipment as indicated below.

### Personal protective equipment, eye/face protection:

Use protective glasses if there is a risk of splashing in the eyes. Eye protection must comply with EN 166.

### Personal protective equipment, hand protection:

Use protective gloves that protect against contact and splashes from molten metal. The breakthrough time is not determined for the product. Change gloves often. The suitability and wear resistance of a glove depends on the use, e.g. frequency and duration of contact, glove material thickness, functionality and resistance to chemicals. Always seek advice from the glove supplier.

In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

<b>Personal protective equipment, respiratory protection:</b>	When heating/using the product and there is no process ventilation, a respirator with filter B/P3 must be used. Respiratory protection must comply with one of the following standards: EN 136/140/145.
<b>Environmental exposure controls:</b>	It must be ensured that local regulations for discharge are observed.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical shape:</b>	Rods, Wire (rings), Foil/Strip, Braze paste
<b>Color/Appearance:</b>	Reddish
<b>Odor / Odor threshold (ppm):</b>	No data available
<b>pH:</b>	No data available
<b>Density and/or relative density:</b>	7.2 - 8.6 g/cm <sup>3</sup>
<b>Kinematic viscosity:</b>	No data available
<b>Viscosity:</b>	No data available
<b>Melting point:</b>	> 645°C
<b>Freezing point:</b>	No data available
<b>Initial boiling point and boiling range:</b>	No data available
<b>Flammability (solid, gas):</b>	No data available
<b>Flammability limits:</b>	No data available
<b>Explosion limits:</b>	No data available
<b>Flash point:</b>	No data available
<b>Self-ignition temperature:</b>	No data available
<b>Vapor pressure:</b>	No data available
<b>Vapor density:</b>	No data available
<b>Particle characterization:</b>	No data available
<b>Partition coefficient n-octanol/water:</b>	No data available

### 9.2. Other information

<b>Additional information:</b>	None.
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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Not reactive



In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

### 10.2. Chemical stability

The product is stable under normal conditions of use and storage.

### 10.3. Risk of dangerous reactions

None known.

### 10.4. Conditions to be avoided

Avoid contact with moisture and water.

### 10.5. Materials to avoid

None known.

### 10.6. Hazardous decomposition products

In case of fire or strong heating, the product splits and flammable and toxic gases can be formed.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No. 1272/2008

Silver, cas no 7440-22-4	
LD50, oral - rat	> 5000 mg/kg
LD50, dermal - rat	> 2000 mg/kg
LC50 (4h), inhalation - rat	> 750 µg/m <sup>3</sup>

Copper, cas no 7440-50-8	
LD50, oral - rat	300 mg/kg
LD50, dermal - rat	> 2000 mg/kg
LC50 (4h), inhalation - rat	> 5.11 mg/L (air)

Phosphorus, cas no 7723-14-0	
LD50, oral - rat	> 2000 mg/kg
LC50 (4h), inhalation - rat	> 5.75 mg/L (air)

Antimony, cas no 7440-36-0	
LD50, oral - rat	> 3100 mg/kg
LC50 (4h), inhalation - rat	> 5.2 mg/L (air)

**Skin corrosion/irritation:** Not classified.

**Serious eye damage/irritation:** Not classified.

In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

<b>Respiratory sensitization or skin sensitization:</b>	Not classified.
<b>Germ cell mutagenicity:</b>	Not classified.
<b>Cancer risk:</b>	Not classified.
<b>Reproductive toxicity:</b>	Not classified.
<b>Single STOT exposure:</b>	Inhalation of solder/welding fumes can cause irritation of the upper respiratory tract.
<b>Repeated STOT exposures:</b>	Prolonged inhalation can cause water in the lungs.
<b>Aspiration hazard:</b>	Not classified

## 11.2. Information on other hazards

<b>Hormone-disrupting properties:</b>	None known.
<b>Other toxicological effects:</b>	None known.

## SECTION 12: Environmental information

### 12.1. Toxicity

<b>Silver</b> , cas no 7440-22-4	
LC50, short-term exposure - freshwater fish	1.2 µg/L (96h exposure time)
LC50, short-term exposure - marine fish	331 µg/L (96h exposure time)

  

<b>Copper</b> , cas no 7440-50-8	
LC50, short-term exposure - freshwater fish (Pimephales promelas)	17-32 µg/L (96h exposure time)
LC50, short-term exposure - freshwater fish (Oncorhynchus mykiss)	12-30 µg/L (96h exposure time)

  

<b>Phosphorus</b> , cas no 7723-14-0	
LC50, short-term exposure - freshwater fish (Pimephales promelas)	0.33-0.78 mg/L (96h exposure time)
LC50, short-term exposure - freshwater fish (Oncorhynchus mykiss)	0.169 mg/L (96h exposure time)
EC50, short-term exposure - water flea (Ceriodaphnia dubia)	0.147-0.228 mg/L

  

<b>Antimony</b> , cas no 7440-36-0	
LC50, short-term exposure - freshwater fish (Pimephales promelas)	14.4 mg/L (72h exposure time)
EC50, short-term exposure - freshwater fish	1.13 mg/L (72h exposure time)

In accordance with Regulation (EC) No. 1907/2006 (REACH), Annex II, with subsequent adaptation according to Regulation (EU) No. 2020/878

(Pimephales promelas)	
LC50, short-term exposure – marine fish (Paralichthys major)	6.9 mg/L (72h exposure time)
LC50, short-term exposure - invertebrates (Daphnia magna)	12.1 mg/L (72h exposure time)
EC50, short-term exposure - invertebrates (Daphnia magna)	1.74 mg/L (72h exposure time)
EC50, short-term exposure - algae (Pseudokirchneriella subcapitata)	2.11 mg/L (72h exposure time)

### 12.2. Persistence and degradability

No data available.

### 12.3. Bioaccumulative potential

Bioaccumulation is not expected.

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

Not applicable.

### 12.6. Hormone-disrupting properties

None known.

### 12.7. Other adverse effects

None known.

## SECTION 13: Disposal

### 13.1. Methods for waste treatment

It is recommended that spills and waste be disposed of via the local waste management system.

## SECTION 14: Transport information

### 14.1. UN/ID number

Not applicable.

### 14.2. UN proper shipping name

Not applicable.

### 14.3. Transport hazard class(es)

Not applicable.

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#### 14.4. Packaging group

Not applicable.

#### 14.5. Environmental hazards

Not applicable.

#### 14.6. Special precautions for the user

None.

#### 14.7. Bulk transport according to IMO instruments

Not covered.

### SECTION 15: Information on regulation

#### 15.1. Special regulations/specific legislation for the substance or mixture with regard to safety, health, and the environment

**Special provisions:** None.

#### 15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out for the ingredients described in point 3.

### SECTION 16: Other information

**Abbreviations:**

- PBT: Persistent, Bioaccumulative, and Toxic
- vPVB: Very Persistent and Very Bioaccumulative
- STOT: Specific Target Organ Toxicity
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- TWA: Time-weighted average exposure limit
- STEL: Short-term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- CAS: Chemical Abstract Service Number