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**KME-product:** semi finished products from copper tin alloys

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## Information sheet for articles<sup>1</sup>

### 1. Identification of the article and of the supplier

#### Application / use of the article:

Articles from copper alloy like tubes, rods, plates, sheets ((blank or coated), coins and other semi-finished products in massive form

#### REACH - information contact

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#### Remarks

Semi-finished products from copper and copper alloys are articles according to Regulation (EC) No. 1907/2006 (REACH Regulation). For articles it is not mandatory by law to issue a safety data sheet. To provide information to our customers this voluntarily information sheet was compiled, but it is not subject to the formal requirements of the REACH Regulation.

### 2. Hazard identification

When supplied in solid form the articles from copper and copper alloys are nonhazardous. If they are subsequently processed in any way which might produce airborne dust or fumes, for instance by dry grinding, abrading, electro discharge machining, melting or welding (the material itself) then an inhalation hazard could arise. General handling, stamping, forming and most machining operations are non-hazardous. Heat treatment in air up to about 400 °C is non-hazardous but higher temperatures may give rise to loss of oxide, which could cause hazardous inhalation. This can be avoided by treatment in inert atmosphere.

<sup>1</sup> We confirm that the information involved in the drawing up of this document has been checked to the best of our knowledge for completeness, correctness and current relevance. We shall inform our customers about mistakes which transpire to exist in information included in this declaration as well as about amendments about which we become aware prior to a delivery. We declare our agreement with the fact that our information is to be used by our customers along the supply chain. We provide a guarantee for any damages which can be proved to ensue from intentionally incorrect or incomplete documentation.

### 3. Composition / information on ingredients

**Description:** Copper alloy (metal in compact form)

**Material codes: copper tin alloy (bronze)**

KME material Trade name	EN Material code (CEN/TS 13388:2013)	EN Material number (CEN/TS 13388:2013)	ASTM UNS-number
	CuSn4	CW 450 K	C 51100
	CuSn5	CW 451 K	C 51000
	CuSn6	CW 452 K	C 51900
	CuSn7	CW 453 K	C 52100
	CuSn8	CW 453 K	C 52100
KLF 5 Z			C 50725
	CuSn3Zn9	CW 454 K	C 42500
TECU <sup>®</sup> -Zinn			

The classifications mentioned below reflect the classification of the responding pure substance and are for information only. Copper alloys are special preparations according to Regulation (EC) 1907/2006 (REACH).

**Classified alloy components (respective to individual alloy)**

Number	Name of component	Classification CLP / EU	Content (w/w) / remark
-	-	-	-

**non harmonized classified alloy components (respective to individual alloy)**

Number	Name of component	Classification
CAS: 7440-50-8 EINECS: 231-159-6	Copper	-
CAS: 7440-66-6 EINECS: 231-175-3	Zinc	-
CAS: 7440-31-5 EINECS: 231-141-8	Tin	-
CAS: 7723-14-0 EINECS: 231-768-7	Phosphorus	-
CAS: 7439-89-6 EINECS: 231-069-4	Iron	-

### 4. First aid measures

**General information:** There is no acute risk associated and no special measures required.

Exposure	Measures
Inhalation	Ensure supply of fresh air. In the event of symptoms refer to medical treatment. In practice any exposure can only arise from operations such as grinding, abrading, electro discharge machining, welding or melting and is likely to be at low levels which will not cause immediate symptoms.
Skin contact	Normally no skin irritation.
Eye contact	Rinse thoroughly with plenty of water and seek medical advice. Use normal industrial protection to protect against foreign bodies entering the eyes.
Ingestion	In the event of symptoms refer to medical treatment. Use normal industrial hygiene.

## 5. Fire fighting measures

<b>suitable extinguishing agents</b>	Use fire extinguishing methods suitable to surrounding conditions.
<b>Protective equipment</b>	No special measures required

## 6. Accidental release measures

<b>Personal Protection</b>	Not required, not applicable
<b>Environmental protection</b>	Not required, not applicable

## 7. Handling and storage

### Handling

<b>Protection of personal health and environment</b>	Control are only applicable to any process which might produce air-borne dust or fumes, which are subject to Health and Safety Executive Maximum Exposure as shown in the table 8.1
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### Storage

<b>Safety of persons and things</b>	No special requirements.
<b>Co-storage / maximum storage</b>	No special requirements.

## 8. Exposure controls and personal protections

### Limitation and control of the exposure at the working place

If breathable dust or smoke occurs by machining, the exposition to workers should be controlled with a exhaust filter system to meet the limit values. As an additional measure personal protection as a filter mask or an independent breathing helmet may be used.

### Occupational Exposure Limit Values for possible hazards during processing

Link to GESTIS International Limit Values: [http://limitvalue.ifa.dguv.de/WebForm\\_gw2.aspx](http://limitvalue.ifa.dguv.de/WebForm_gw2.aspx)

<b>Personal protective equipment</b>	<b>Recommendation</b>
<b>Respiratory</b>	Use an industrial filter mask (type P2) when work-place limits are exceeded.
<b>Hands</b>	Protective gloves are recommended, depending on the handling.
<b>Eyes</b>	Eye protection is recommended, depending on the processing.
<b>Body</b>	Wear suitable protective clothing, depending on the processing.

## 9. Physical and chemical properties

<b>Parameter</b>	<b>description</b>
<b>Colour</b>	copper red
<b>State of aggregation</b>	solid
<b>Density</b>	8,96 g/cm <sup>3</sup> (Lit.)
<b>Solubility in water</b>	insoluble
<b>Odour</b>	odourless
<b>Melting point</b>	1083 °C (Lit.)
<b>Boiling point / boiling range</b>	undetermined
<b>Flash point</b>	Not applicable
<b>Ignition (solid, gaseous)</b>	Not applicable
<b>Explosion occurrence</b>	- No danger in solid form - In case of melted metal risk of explosion by contact with water.

## 10. Stability and reactivity

**Conditions to avoid:** No decomposition if used to specification.

With contact to mercury, ammonia, acetylene, chlorine-gas and various acids may be incompatibility. There will be a corrode reaction.

## 11. Toxicology information

### General information:

When used and handled according to specifications, the article does not have any harmful effects to our experience.

**On skin:** No irritant effect.

**On eye:** No irritating effect.

**Sensitization:** No sensitizing effects known.

## 12. Ecological information

### General notes

Semi-finished articles from copper and copper-alloys are practically insoluble in water.

### Potential of bioaccumulation

Copper is a basic essential element, it will not be accumulated, but by some living stored for later use

## 13. Disposal considerations / Recycling

KME confirm that the articles from copper and copper alloys could and should be recycled by end of life in accordance with Annex II to Directive 75/422/EEC for the recovery operation R4 (recycling / reclamation of metals).

Classification according to the Waste Catalogue Ordinance.

KME is authorized to receive and recover waste from copper and copper alloys each broken down by source:

Origin of the waste in according with EWC	EWC-Waste Code	Description
Waste metal	02 01 10	Waste metal
Slags from primary and secondary production	10 06 01	Slags from primary and secondary production
Other particulates and dust	10 06 04	Other particulates and dust
Furnace slag	10 10 03	Furnace slag
Other particulates other than those mentioned in 10 10 11	10 10 12	Other particulates other than those mentioned in 10 10 11
Wastes from copper hydrometallurgical process other than those mentioned in 11 02 05	10 02 05	Wastes from copper hydrometallurgical process other than those mentioned in 11 02 05
Waste from mechanical design processes	12 01 03	Non-ferrous metal chips
disassemble of old cars	16 01 18	Non-ferrous metal
Metals (including alloys)	17 04 01	copper, bronze, brass
Waste from shredding of metal-containing waste	19 10 02	Non-ferrous metal waste
Wastes from the mechanical processing (eg sorting, crushing)	19 12 02	Non-ferrous metal

### EU-transboundary shipment of waste Directive

Classification	Waste Code	Description
B1 metals and metal containing waste, in mas-	B1010	Copper scrap

sive form		
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Contact KME or local metal dealer for recycling information.

## 14. Transport information

There is no special risk of carrying copper alloys in solid form, either as a primary product or as scrap. EEC hazard labelling is not required.

Apply suitable measures concerning load securing in due consideration to dimension and mass of the articles.

## 15. Regulatory information

### Labelling in accordance to the EC-regulations and SVHC candidate list

Semi-finished articles from copper and copper-alloy are not a substance or mixtures according to Regulation (EC) No. 1272/2008 on classification, labelling and packaging of substances and mixtures (GHS/CLP regulation).

The articles and packaging do not contain any of the particularly alarming substances (SVHC) mentioned in the candidate list in concentrations of more than 0.1% (w/w), at the time of the revision date of this information sheet.

(SVHC-candidate list updated by ECHA)

Link to see the current candidate list: [http://echa.europa.eu/chem\\_data/candidate\\_list\\_en.asp](http://echa.europa.eu/chem_data/candidate_list_en.asp)

The products from copper and copper-alloy (with tinned or uncoated surface) have a chemical composition in accordance with the below listed Directives of the European Parliament and of the Council and Council/Commission Decisions and mentioned regulations:

Item	Regulation
ELV	DIRECTIVE 2000/53/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 September 2000 on end-of life vehicles (so-called ELV) according amendment of Annex II (2008/689/EG)
GADSL	VDA 232-101 Global Automotive Declarable Substance List (GADSL)
RoHS 3 (assessment based on DIN EN 50581)	DIRECTIVE 2011/65/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 08 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. COMMISSION DELEGATED DIRECTIVE (EU) 2015/863 of 31 March 2015 amending Annex II to Directive 2011/65/EU (so-called RoHS 3) <b><u>Applied exemption according annex III in case of lead-containing alloy composition in the article:</u></b> <i>6c) Copper alloy containing up to 4 % lead by weight</i> China-RoHS SJ/T 11363-2006)
DecaBDE	DIRECTIVE 2005/717/EG of 1st July 2008 Flame retardent DecaBDE in electrical and electronic appliances.
POP Stockholm Convention	EG/850/2004 – POP-Directive EU/519/2012 Regulation to change annex I of EG/850/2004 EU/2016/293- Regulation to change annex I of EG/850/2004 to add HBCD
PFOS	Directive 2003/11/EG (Pentabromdiphenylether, Octabromdiphenylether) and 2006/122 EG (PFOS) of the EUROPEAN PARLIAMENT AND OF THE COUNCIL to change 76/769/EG for the use of dangerous substances and dangerous products. The products are free from PAH.
Ozone-Layer	Regulation (EC)1005/2009: Substances that Deplete the Ozone Layer
- Cr VI - asbestos - mercury	The products are free from hexavalent chromium (CrVI) and asbestos There is no use of mercury in our alloy composition
Packaging material	94/62/EG (packaging)

<b>Siloxane</b>	The products are free from Octamethylcyclotetrasiloxane (D4) (EC No: 209-136-7, CAS No: 556-67-2) and Decamethylcyclopentasiloxane (D5) (EC No. 208-764-9, CAS No. 541-02-6)
<b>TSCA</b>	All ingredients are on the TCSCA Inventory list or are exempt from TSDA Inventory requirements.
<b>SARA Sec. 313 RPT</b>	The alloy contains one or more chemicals which may be subject to the reporting requirements. Refer to 40 CFR Part 372 to determine if your facility is subject to these reporting requirements. SARA listed forms of copper are considered present as shipped in solid metal forms; however operations such as melting, abrading, burning, welding, sawing, brazing, grinding, cutting, polishing and machining may generate forms subject to the reporting requirements. Refer to sec. 313.

## 16. Other information

The given information is based on the present knowledge and our experiences. They are given for a safe and proper use of our articles. These given data don't have the meaning of insured properties. The information in this information sheet is made by our best knowledge and our conscience.