KME-product: articles/ semi-finished products from **copper tin alloys (bronze)**

Revised at: 26.06.2023

Information sheet for articles

1. Identification of the article and of the supplier

Supplier/Manufacturer // Application and use of the articles
KME SE affiliates, hereinafter referred to as KME, manufacture and supply products made of copper and copper alloys in the form of semi-finished products like hot and cold rolled bands, plates, sheets and strips, pressed and drawn pipes, tubes, profiles, rods, either uncoated or with tinned surface.

Remark
Semi-finished products from copper and copper alloys are articles according to Regulation (EC) No.1907/2006 (REACH Regulation).
This voluntary leaflet has been prepared for the information of KME-customers, but it is not subject to the formal requirements of the REACH Regulation.

KME Corporate REACH regulatory affairs / Product stewardship

Frank Otten
Head Corporate EHSQ-Management
Corporate REACH coordination

Phone: +49 (0)541 321 1509
Mobile: +49 (0)160 53 56 995
E-Mail: Frank.Otten@kme.com

Production Sites / Contact Product-stewardship

KME SE affiliate	**Contact:** Product-stewardship / Technical information
KME Germany GmbH Klosterstraße 29 49074 Osnabrück Germany Phone +49-(0)541-321-0	**Frank Otten** EHSQ-Management Phone: +49 (0)541 321 1509 E-Mail: Frank.Otten@kme.com
KME Mansfeld GmbH Lichtlöcherberg 40 06333 Hettstedt Germany Phone +49-(0)3476-89-0	**Bernd Unterschütz** Quality Manager Phone: +49 (0) 3476 89 2242 E-Mail: Bernd.Unterschuetz@kme.com
KME Stolberg GmbH Frankentalstraße 5 52222 Stolberg +49 24 02-1 05-0	**Wolfgang Hauch** EHS Manager Phone: +49 (0) 2402 105 227 E-Mail: Wolfgang.Hauch@kme.com

Service Centers / Contact Product-stewardship

KME SE affiliate	Contact: Product-stewardship / Technical information
KME Italy S.p.A. **Slitting Center for Rolled Products** Via della Repubblica, 257 55051 Fornaci di Barga (LU) Italy Phone. +39 0583 7011	**Elena Maria Martellucci** Quality and R&D Manager Phone: +39 0583 701 396 E-Mail: ElenaMaria.Martellucci@kme.com
KME Italy S.p.A. Via della Volta, 201 25124 Brescia Italy Phone. +39 030 3513411	**Dr. Guglielmo Masciarelli** Quality Manager Phone: +39 0583 701 431 E-Mail: Guglielmo.Masciarelli@kme.com
KME Service Centre Italy S.p.A. Via Enrico Fermi 52 27036 Mortara Italy Phone: +39 384 90156	**Paolo Sambartolomeo** Managing Director Phone: +39 0384 90156 E-Mail: paolo.sambartolomeo@kme.com
KME Rolled France SAS Slitting Center for Rolled Products Zone industrielle des Miels 25870 Devecey France Phone: + 33 3 81 88 93 30	**Daniel Federspiel** EHSQ-Manager Phone: +33 03 81 88 93 35 E-Mail: Daniel.Federspiel@kme.com
KME Spain S.A.U. Calle Cerámica nº 9 E-08292 Esparreguera Barcelona (Spain) Phone: +34 93 574 70 90	**Manuel Hernández Muñoz-Reja** Resp. Service Center Barcelona Phone: +34 935.747.062 / 262 E-Mail: Manuel.Hernandez@kme.com
KME Service Centre UK Ltd. Rabone Lane Smethwick B66 2NN UK Phone: +44 121 555 1199	**Christopher Meese** Managing Director Phone: +44 1905 751 809 E-Mail: Christopher.Meese@kme.com
KME Service Centre Slovakia s.r.o Mokradská 2931 026 01 Dolný Kubín Slovenská republika SLOVAKIA Phone: +42 1 43 583 2111	**Tadeusz Kipiel** Managing Director Phone: +42 1 43 58 321 39 E-Mail: Tadeusz.Kipiel@kme.com
KME Metale Sp. zoo Sales & Slitting Center for Rolled Products Distribution Center 30-733 KRAKOW Poland Phone +48 12 306 65 50	**Arkadiusz Wolski** Phone: +48 604213202 E-Mail: Arkadiusz.Wolski@kme.com

2. Hazard identification

When supplied in solid form the articles from copper and copper alloys are non-hazardous. 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 is avoided by treatment in inert atmosphere.

3. Composition / information on ingredients

Description: Copper-metal in compact form. The chemical composition is subject to variations within standardized tolerances.

Material codes: copper tin alloy (bronze)

KME material Trade name	EN Material Code (CEN/TS 13388:2015-08)	EN Material number (CEN/TS 13388:2015-08)	ASTM UNS-number
	CuSn0,15	CW 117C	C14415
	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
	CuSn3Zn9	CW 454 K	C 42500
TECU®-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	-

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. Firefighting measures

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

6. Accidental release measures

Personal Protection	Not required, not applicable
Environmental protection	Not required, not applicable

7. Handling and storage

Handling and storage	Measure
Protection of personal health and environment	Control are only applicable to any process which might produce airborne dust or fumes, which are subject to Health and Safety Executive Maximum Exposure as shown in chapter 8
Storage, Co-storage, maximum storage	No special requirements. Look for surrounding conditions.

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

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

9. Physical and chemical properties

Parameter	description
Colour	Bronce
State of aggregation	solid
Density	Around 8,8 g/cm3 (Lit.) (depends on alloy)
Solubility in water	insoluble
Odour	odourless
Melting point	around 1000 °C (Lit.) (depends on alloy)
Boiling point / boiling range	undetermined
Flash point	Not applicable
Ignition (solid, gaseous)	Not applicable
Explosion occurrence	- Not explosive - In case of molten 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 100 % by end of life in accordance with Annex II to Directive 2008/98/EG for the recovery operation R4 (recycling / reclamation of metals).
KME is the reliable partner to accept and recycle copper and copper alloy scrap.

Classification according to the Waste Catalogue Ordinance:

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
Other particulates and dust	10 08 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 06	Wastes from copper hydrometallurgical process
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 17 04 03 17 04 06 17 04 07	copper, bronze, brass lead tin mixed metals
Waste from shredding of metal-containing waste	19 10 02	Non-ferrous metal waste
Wastes from the mechanical processing (e.g. sorting, crushing)	19 12 02 19 12 03	Non-ferrous metal
municipal wastes (household waste and similar commercial, industrial and institutional wastes) including separately collected fractions	20 01 40	Non-ferrous metal

EU-transboundary shipment of waste Directive

Classification	**Waste Code**	**Description**
B1 metals and metal containing waste, in massive form	B1010	Copper scrap

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. REACH / SVHC

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.
The notification to ECHA SCIP database is not applicable.

(*SVHC-candidate list for authorization updated by ECHA)*
Link to the most recent update: https://echa.europa.eu/de/candidate-list-table

16. Information regarding other regulations

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) **In case of lead-containing alloy applied exemption according annex II:** *3 Copper alloy containing up to 4 % **lead** (w/w) (exemption will be reviewed 2025) acc. latest commission delegated directive*
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 (RoHS 3) COMMISSION DELEGATED DIRECTIVE (EU) 2017/2102 of 15 November 2017 amending Directive 2011/65/EU COMMISSION DELEGATED DIRECTIVE (EU) 2018/741 of 01 March 2018 amending Annex III to Directive 2011/65/EU **In case of lead-containing alloy applied exemption** *6c) Copper alloy containing up to 4 % **lead** (w/w)* --- Turkey-RoHS China-RoHS SJ/T 11363-2006)
DecaBDE	DIRECTIVE 2005/717/EG of 1st July 2008 Flame retardent DecaBDE in electrical and electronic appliances.
WEEE	For KME articles (semi-finished products) this directive is not applicable.
POP Stockholm Convention	POP-Directive REGULATION (EU) 2019/1021 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 20 June 2019 on persistent organic pollutants to recast and repealing EG/850/2004 and associated amendments
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.
Hydrogen halide	The products are free from hydrogen halides (fluorine, chlorane, bromane, iodane, astatene)
Ozone-Layer	Regulation (EC)1005/2009: Substances that Deplete the Ozone Layer
Packaging material	Directive 94/62/EC (packaging and packaging waste)

Item	Regulation
Siloxane	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)
- Cr VI - asbestos - mercury	The products are free from hexavalent chromium (CrVI) and asbestos There is no use of mercury in our alloy composition
Per- and polyfluoroalkyl substances (PFAS)	The products are free from PFAS.
US TSCA-PBT Regula-tion	The products are free from these regulated PBT substances: -2,4,6-Tris(tert-butyl)phenol; 2,4,6-TTBP(CASRN 732-26-3). -Phenol, isopropylated phosphate (3:1); PIP (3:1)(CASRN 68937-41-7). -Pentachlorothiophenol; PCTP(CASRN 133-49-3). -Hexachlorobutadiene; HCBD(CASRN 87-68-3). -Decabromodiphenyl ether; DecaBDE(CASRN 1163-19-5).

US State Regulations

California Proposition 65-list dated:18.12.2020 **Link: OEHHA Prop65 directive**	Alloy-components (-> refer to chapter 3) listed in prop65-list as: Chemicals known to cause cancer: none Chemicals known to cause reproductive toxicity for females or for males: none
TSCA	All alloy-components are listed on the TSCA (Toxic Substance ControlAct) list or are exempt from. All alloy-components are listed on SARA Section 313
SARA Section 312	Reporting and/or labelling requirements may be applicable for the components (including unintentional trace elements) of as-supplied alloy bar-stock; check your State and Local Regulatory Requirements for any reporting and labelling requirements.

REACH

Item	EU-Regulation
annex XVII REACH Regulation (EU) No 1907/2006	n.a.

17. Disclaimer

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. They are given for a safe and proper use of our articles. These given data don't have the meaning of warranted characteristics of the specific delivered articles.
We shall inform our customers about mistakes which transpire to exist in information included in this information sheet 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.