Material Data Sheet
Copper Alloys

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MKM
WIR LEBEN KUPFER

1. Description

Product: Semi-finished products (sheets, strips) made of copper alloys, produced by melting cathodes or cathode-like scrap metals and master alloys with adjacent metallurgic hot and cold forming.

Trade name: Low-alloyed copper alloys, copper-aluminium alloys, copper-nickel-alloys, copper-nickel-zinc alloys, copper-tin-alloys, copper-zinc-alloys

REACH registration number: not necessary

Supplier:
MKM Mansfelder Kupfer und Messing GmbH
Lichtlöcherberg 40
06333 Hettstedt
Germany

Note: Semi-finished products made of copper alloys are products according to regulation (EC) No. 1907/2006. For these products, it is not necessary to create a safety data sheet according to article 31.
However, in order to provide all necessary information for the use of these products, the following material data sheet has been developed.
We explicitly point out that the distribution of the information contained in this material data sheet takes place on voluntary basis and therefore no claims can arise from the above mentioned regulation.

2. Chemical composition

Chemical characterisation: The main component is copper with defined and standardised alloying elements

Element	CAS	EINECS	Mass fraction in %
Copper	7440-50-8	231-159-6	54.0 – 99.9
Aluminium	7429-90-5	231-072-3	max. 11.5
Chromate	7440-47-3	231-157-5	max. 1.2
Iron	7439-89-6	231-096-4	max. 6.0
Lead	7439-92-1	231-100-4	max. 2.0
Manganese	7439-96-5	231-105-1	max. 3.0
Nickel	7440-02-0	231-111-4	max. 32
Silicium	7440-21-3	231-130-8	max. 1.0
Sulphur	7704-34-9	231-722-6	max. 0.60
Tin	7440-31-5	231-141-8	max. 15.0
Zinc	7440-66-6	231-175-3	max. 40.2
Zirconium	7440-67-7	231-176-9	max. 0.3

Safety at work:	Environmental management:	Quality management:
26.06.2014	i.V. 26.06.2014	i.V. 26.06.2014

Additional notes:
These are copper wrought alloys in which, by melting, 2 or 3 main alloying elements combine to become a firm macroscopic homogenous structure. During further processing (metallurgical forming processes), no substances are released. The chemical composition is subject to fluctuations within standardised tolerances. Classifications of specified alloying components are not transferable to the characteristics of the alloys!

Our products do not contain substances, which are mentioned in Annex XIV of the REACH regulations (SVHC - Substance of very high concern).

The products comply with the requirements of European policies and regulations (2011/65/EC (RoHS); 2002/96/EC; 2000/53/EC; 2003/11/EC, 1907/2006/EC (REACH)).

3. Potential risks

Indication of danger: Not applicable, because products are only recast and heat-treated. No substances are released during this process.

Additional risks for health and environment:
Not applicable when properly handled. The products must be used so that no accidental release can occur.

4. First aid measures

No particular measures necessary.

5. Fire fighting measures

Fire fighting measures have to be attuned with the surroundings.

Hazard of substance, preparation, without combustion products or resulting gases
Melted mass can explode upon contact with water.

6. Accidental release measures

Individual related measures of precaution: not necessary

Environmental protection measures: Dust formation should be avoided. Cover drainage system.
Don't allow to reach drainage system or waters.

Procedure for cleaning/take-up:
- Use a licensed industrial vacuum cleaner for take-up.
- Fill the products with mud-like consistency into suitable containers

7. Handling and storage

Precautions for safe handling: No particular measures necessary for semi-finished products. Dust formation should be avoided.

Fire and explosion prevention: No particular measures necessary

Requirements for safe storage: No particular measures necessary.

8. Exposure prevention and personal protective equipment

Permitted limits regarding safety at work (8 hrs average)

Copper: dust and fog	1mg/m³
Copper: fume	0.1mg/m³

Personal protective equipment:

General protection and hygiene measures: Wash hands before breaks and at the end of work. Do not inhale dust.

Respiratory protection:	At dust formation, appropriate protective respirators shall be used.
Skin protection:	Appropriate skin protection shall be used (e.g. gloves).
Eye protection:	Appropriate tight safety goggles shall be used.
Body protection:	Appropriate protective clothing shall be used.

9. Physical and chemical characteristics

Form:	solid, firm
Colour:	dependent on alloying elements
Odour:	odourless
Melting point:	dependent on alloying elements
Ignition temperature:	not applicable
Self ignition temperature:	not applicable
Oxidising properties:	not applicable
Explosion hazard:	not applicable
Density:	dependent on alloying elements
Water solubility:	practically insoluble
Flammability:	the products themselves are not flammable

10. Reactivity and stability:

Stable at normal temperature.

Conditions to avoid: uncontrolled heating without protective measures

Substances to avoid: ammonia, ammonium chloride, ammonium hydroxide, ammonium nitrate, chlorine, ethine, copper(II) chloride, copper nitrate, iron(III) chloride, iron sulphate, ethylene oxide, hydrogen peroxide (>10%)

11. Information on toxicology

There are no harmful effects known to us when the product is handled properly and used for its intended purpose.

Sensitisation
No sensitising effects known.

12. Information on ecology

Semi-finished products made of copper alloys are practically insoluble in water.

13. Information on disposal

Disposal is carried out according to the law on Waste Recycling and Management (KrW-/AbfG).
The materials are 100 % reusable in equipment for metallurgy.

Waste code number: 16 01 18

14. Information on transport

The product is no hazardous good in terms of the land transport regulations (ADR / RID, GGVSE[1]).

Land transport ADR/RID and GGVS/GGVE (cross-border/inland):	
ADR/RID-GGVS/E class:	-
Shipment by sea IMDG/GGVSee:	
IMDG/GGVSee-class:	-
Marine pollutant:	No
Air transport ICAO-TI and IATA-DGR:	
ICA=/IATA-class:	-

15. Legislative provisions

Marking
The products are not subject to mandatory labelling according to EC Directives/GefStoffV.

National provisions:	none
Employment limitations:	not applicable
Statutory order on hazardous incidents:	not applicable
VbF (directive for flammable liquids):	Section 5.2.2. III
TA Luft (Technical Guidelines on Air Quality Control):	not hazardous to water
Water hazard class:	
Other provisions	

For Germany
The accident prevention regulations as well as other provisions by the professional associations must be observed.

[1] German regulations on transport of hazardous goods by land (GGVS), rail (GGVE) and sea (GGVSee)

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16. Other information

Recommended use

The products are intended for industrial use.

electronics, electricity, engineering, corrosion prevention, plumbing trade, mechanical engineering, electrical engineering, chemical industry, food industry, brewery and beverage industry, paper industry, ship building and apparatus construction, automotive engineering, wagon building, locomotive construction, nuclear engineering, overhead line installation

Data origins

Hauptstoffliste 2009 WEKA – Verlag *(List of main substances)*
Gefahrstoffdatenblätter WEKA – Verlag *(Hazardous material data sheets)*
TRGS 900 „ Luftgrenzwerte „ *(Air safety values)*
Remy, Lehrbuch der anorganischen Chemie *(Textbook of inorganic chemistry)*
Verwaltungsvorschrift wassergefährdende Stoffe *(Administrative regulations for water-polluting substances)*
Abfallablagerungsverordnung *(Waste disposal regulations)*
GGVSE *(Ordinance on dangerous goods for road and rail)*