

Copper Zinc Alloy Nanoparticles / Nanopowder	Pricing >
Copper Zinc Alloy Particles	Pricing >
Copper Zinc Alloy Powder	Pricing >
Copper Zinc Nanoparticle Dispersion	Pricing >
Copper Zinc Sputtering Target	Pricing >

Linear Formula	CuZn	
Pubchem CID	10290809	
MDL Number	MFCD00084851	
EC No.	234-645-6	
IUPAC Name	copper; zinc	
SMILES	[Cu].[Zn]	
Inchl Identifier	InChI=1S/Cu.Zn	
Inchl Key	TVZPLCNGKSPOJA-UHFFFAOYSA-N	
Signal Word	Warning	
Hazard Statements	H228-H315-H319-H335	
Hazard Codes	N/A	
Risk Codes	N/A	
Safety Statements	N/A	
Transport Information	UN 3089 4.1 / PGIII	
WGK Germany	3	

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SAFETY DATA SHEET

Date Accessed: 04/20/2024

Date Revised: 01/15/2022

SECTION 1. IDENTIFICATION

Product Identifiers: All applicable American Elements product codes for CAS #53801-63-1

Relevant identified uses of the substance:
Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
Domestic, North America +1 800-424-9300
International +1 703-527-3887

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)
GHS02 Flame
Flam. Sol. 2 H228 Flammable solid.
Hazards not otherwise classified No data available
GHS label elements, including precautionary statements
Hazard pictograms



SECTION

GHS02

Signal word Warning

Hazard statements

H228 Flammable solid.

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.

WHMIS classification

B4 - Flammable solid
Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
HEALTH
FIRE
REACTIVITY
1
2
1
Health (acute effects) = 1
Flammability = 2
Physical Hazard = 1
Other hazards
Results of PBT and vPvB assessment
PBT: N/A
vPvB: N/A

SECTION 3.

COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS No. / Substance Name:
53801-63-1 Zinc-copper couple

SECTION 4. FIRST AID MEASURES

Description of first aid measures
If inhaled:
Supply patient with fresh air. If not breathing, provide artificial respiration.
Keep patient warm.
Seek immediate medical advice.
In case of skin contact:
Immediately wash with soap and water; rinse thoroughly.
Seek immediate medical advice.
In case of eye contact:
Rinse opened eye for several minutes under running water. Consult a physician.
If swallowed:
Seek medical treatment.
Information for doctor
Most important symptoms and effects, both acute and delayed:
No data available
Indication of any immediate medical attention and special treatment needed:
No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing agents Special powder for metal fires. Do not use water.

For safety reasons unsuitable extinguishing agents Water

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Zinc oxide

Copper oxides

Advice for firefighters

Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

Environmental precautions: Do not allow product to enter drains, sewage systems, or other water courses.

Methods and materials for containment and cleanup: Ensure adequate ventilation.

Prevention of secondary hazards: Keep away from ignition sources.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Handling

Precautions for safe handling

Handle under dry protective gas.

Keep container tightly sealed.
Ensure good ventilation at the workplace.
Information about protection against explosions and fires: Protect against electrostatic charges.
Conditions for safe storage, including any incompatibilities
Requirements to be met by storerooms and receptacles: Refrigerate
Information about storage in one common storage facility:
Protect from heat.
Store away from water/moisture.
Do not store together with acids.
Store away from oxidizing agents.
Further information about storage conditions:
Store under dry inert gas.
This product is moisture sensitive.
Keep container tightly sealed.
Protect from humidity and water.
Refrigerate
Specific end use(s) No data available

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Control parameters
Components with limit values that require monitoring at the workplace:
None.
Additional Occupational Exposure Limit Values for related materials or possible hazards during processing:
7440-50-8 Copper
PEL (USA) Long-term value: 1* 0.1** mg/m³
as Cu *dusts and mists **fume
REL (USA) Long-term value: 1* 0.1** mg/m³
as Cu *dusts and mists **fume
TLV (USA) Long-term value: 1* 0.2** mg/m³
*dusts and mists; **fume; as Cu
EL (Canada) Long-term value: 1* 0.2**
mg/m³
*dusts and mists; **fume

EV (Canada) Long-term value: 0.2* 1**

mg/m³

as copper, *fume;dust and mists**

Additional information: No data

Exposure controls

Personal protective equipment

Follow typical protective and hygienic practices for handling chemicals.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Maintain an ergonomically appropriate working environment.

Breathing equipment: Use suitable respirator when high concentrations are present.

Recommended filter device for short term use:

Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if airpurifying

respirators are appropriate. Only use equipment tested and approved under appropriate government standards.

Protection of hands:

Impervious gloves

Inspect gloves prior to use.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Penetration time of glove material (in minutes) No data available

Eye protection: Safety glasses

38.0.2

Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Powder or solid in various forms

Color: Brown to dark gray

Odor: Odorless

Odor threshold: No data available.

pH: N/A
Melting point/Melting range: 419-420 °C
(786-788 °F)
Boiling point/Boiling range: No data
available
Sublimation temperature / start: No data
available
Flammability (solid, gas) Highly flammable.
Ignition temperature: No data available
Decomposition temperature: No data
available
Autoignition: No data available.
Danger of explosion: No data available.
Explosion limits:
Lower: No data available
Upper: No data available
Vapor pressure: N/A
Density: No data available
Relative density No data available.
Vapor density N/A
Evaporation rate N/A
Solubility in / Miscibility with
Water: Insoluble
Partition coefficient (n-octanol/water): No
data available.
Viscosity:
Dynamic: N/A
Kinematic: N/A
Other information No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity No data available
Chemical stability Stable under
recommended storage conditions.
Thermal decomposition / conditions to be
avoided: Decomposition will not occur if
used and stored according to
specifications.
Possibility of hazardous reactions Reacts
with strong oxidizing agents
Conditions to avoid No data available
Incompatible materials:
Acids
Water/moisture
Oxidizing agents
Heat
Hazardous decomposition products:
Zinc oxide
Copper oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity: No effects known.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: May cause irritation

Eye irritation or corrosion: May cause irritation

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: No effects known.

Carcinogenicity:

EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

EPA-I: Data are inadequate for an assessment of human carcinogenic potential.

EPA-II: Inadequate information to assess carcinogenic potential.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity: No effects known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Aquatic toxicity: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

Additional ecological information: Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

Other adverse effects No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

**Recommendation Consult official
regulations to ensure proper disposal.**

Uncleaned packagings:

**Recommendation: Disposal must be made
according to official regulations.**

SECTION 14. TRANSPORT INFORMATION

UN-Number

DOT, IMDG, IATA UN3089

UN proper shipping name

**DOT Metal powders, flammable, n.o.s.
(zinc copper alloy)**

**IMDG, IATA METAL POWDER,
FLAMMABLE, N.O.S. (zinc copper alloy)**

Transport hazard class(es)

DOT

**Class 4.1 Flammable solids, self-reactive
substances and solid desensitised
explosives.**

Label 4.1

**Class 4.1 (F3) Flammable solids, self-
reactive substances and solid
desensitised
explosives**

Label 4.1

IMDG, IATA

**Class 4.1 Flammable solids, self-reactive
substances and solid desensitised
explosives.**

Label 4.1

Packing group

DOT, IMDG, IATA III

Environmental hazards: N/A

Special precautions for user Warning:

**Flammable solids, self-reactive
substances and solid desensitised
explosives**

EMS Number: F-G,S-G

**Segregation groups Heavy metals and
their salts (including their organometallic
compounds), powdered
metals**

Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code N/A
Transport/Additional information:
DOT
Marine Pollutant (DOT): No
UN "Model Regulation": UN3089, Metal
powders, flammable, n.o.s. (zinc copper
alloy), 4.1, III

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental
regulations/legislation specific for the
substance or mixture
GHS label elements, including
precautionary statements
Hazard pictograms
GHS02
Signal word Warning
Hazard statements
H228 Flammable solid.
Precautionary statements
P210 Keep away from heat/sparks/open
flames/hot surfaces. No smoking.
P280 Wear protective gloves/protective
clothing/eye protection/face protection.
P240 Ground/bond container and receiving
equipment.
P241 Use explosion-proof
electrical/ventilating/lighting/equipment.
P370+P378 In case of fire: Use for
extinction: CO2, powder or water spray.
National regulations
This product is not listed in the U.S.
Environmental Protection Agency Toxic
Substances Control Act Chemical
Substance Inventory. Use of this product
is restricted
to research and development only. This
product must be used by or directly under
the supervision of a technically qualified
individual as defined by TSCA. This
product must not be used for commercial
purposes or in formulations for
commercial purposes.
This product is not listed on the Canadian
Domestic Substances List (DSL) or the
Canadian Non-Domestic Substances List
(NDSL).
SARA Section 313 (specific toxic chemical
listings)
53801-63-1 Zinc-copper couple

California Proposition 65
Prop 65 - Chemicals known to cause cancer Substance is not listed.
Prop 65 - Developmental toxicity Substance is not listed.
Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.
Information about limitation of use: For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use)
Substance is not listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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