

Safety Data Sheet

1. IDENTIFICATION

- 1) Product name : AuPd Coated Copper Wire (HS-GPF)
- 2) Company : LT METAL Ltd.
 - Address : #693-1, Gojan-dong, Namdong-gu, Incheon, Republic of Korea
 - Telephone : +82 32 813 1153
- 3) Recommended use of the chemical and restrictions on use
 - Recommended use : Bonding wire for semiconductor
 - Restrictions on use : Foodstuffs

2. HAZARDS IDENTIFICATION

- 1) Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
 - Physical hazard : Not applicable
 - Health hazard : Not applicable
 - Environment hazard : Not applicable
- 2) Label elements including precautionary statements
 - Symbol : Not applicable
 - Signal word : Not applicable
 - Hazard statements : Not applicable
 - Precautionary statements : Not applicable
- 3) NFPA Rating
 - Health : 0 Flammability : 0 Reactivity : 0 Water reactivity : 0

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS No.	EINECS No.	Conc. (%)
Copper : Wire	7440-50-8	231-159-6	97.51% ~ 98.65%
Palladium	7440-05-3	231-115-6	1.3% ~ 2.3%
Gold	7440-57-5	231-165-9	0.05% ~ 0.19%

4. FIRST AID MEASURES

- 1) In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- 2) In case of skin contact

No data available
- 3) If inhaled

If breathed in, move person into fresh air.
If not breathing, give artificial respiration.
- 4) If swallowed

Never give anything by mouth to an unconscious person.
- 5) Potential health effect

May be harmful if swallowed.
- 6) Other medical attention.

Medical personnel should be aware of the protective measures of the substance.

5. FIRE-FIGHTING MEASURES

1) Flammable properties

Flash point : No flash occurred under 110 °C (Rapid equilibrium method)

Autoignition temperature : No spontaneous combustion under 300 °C

Burning rate : Did not ignite. (UN TDG test & criteria - Test N1)

2) Suitable extinguisher

Water spray, alcohol-resistant foam, dry chemical, carbon dioxide

3) Specific hazards arising from the chemical

No data available

4) Special protective equipment for fire-fighters

Wear self-contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

1) Personal precautions

Avoid breathing dust.

2) Environmental precautions

Don't dispose the product into drainages.

3) Methods and materials for containment and cleaning up

Pick up and arrange disposed materials without creating dust.

7. HANDLING AND STORAGE

1) Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

2) Conditions for safe storage

Stable under general condition.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

1) Components with workplace control parameter

KOSHA :

Chemical Name	TWA	STEL
Copper	1 mg/m ³	2 mg/m ³

- US ACGIH :

Chemical Name	TLV	STEL
Copper	1 mg/m ³ / dust	-

2) Appropriate engineering controls : No data available

3) Personal protective equipment

- Respiratory protection : Dust mask
- Hand protection : Protective gloves
- Eye protection : Protective goggles
- Skin and body protection : No data available

9. PHYSICAL AND CHEMICAL PROPERTIES

1) State : Solid at 20 °C

2) Appearance form : Wire (Not powder)

3) pH : 6.5 ~ 7.5 at 20 °C ※ Sample : H₂O = 1 : 5 (V/V)

4) Flash point : No flash occurred under 110 °C (Rapid equilibrium method)

5) Autoignition temperature : No spontaneous combustion under 300 °C

6) Water solubility : Water Insoluble at 20 °C

7) Density : 9.03 at 20 °C

8) Melting point : 1,083 °C (Copper) ※ From US HSDB

9) Boiling point : 2,595 °C (Copper) ※ From US HSDB

10) Flammability

Burning rate : Did not ignite. ※ UN TDG test & criteria - Test N1

11) Explosive properties : No data available

12) Oxidizing properties : No data available

13) Vapour pressure : No data available

14) Decomposition temperature : No data available

15) Partition coefficient (n-octanol/water) : No data available

16) Viscosity : No data available

17) Lower explosion limit : No data available

18) Upper explosion limit : No data available

10. STABILITY AND REACTIVITY

1) Chemical stability

Stable under general condition.

2) Conditions to avoid

Avoid dust formation.

3) Materials to avoid

Corrosive materials

4) Hazardous decomposition products

No data available

11. TOXICOLOGICAL INFORMATION

1) Acute toxicity

Oral rat LD50 : No data available

Inhalation rat LC50 : No data available

Skin rabbit LD50 : No data available

2) Skin irritation : No data available

3) Eye irritation : No data available

4) Respiratory sensitization : No data available

5) Skin sensitization : No data available

6) Germ cell mutagenicity : No data available

7) Carcinogenicity : Not classifiable

8) Reproductive toxicity : No data available

9) Specific target organ toxicity - single exposure (GHS) : No data available

10) Specific target organ toxicity - repeated exposure (GHS) : No data available

11) Aspiration hazard : No data available

12. ECOLOGICAL INFORMATION

1) Toxicity

Fish LC50 : No data available

Crustacean EC50 : No data available

Algae EC50 : No data available

2) Persistence and degradability : No data available

3) Bioaccumulative potential : No data available

4) Mobility in soil : No data available

5) Other adverse effects : Toxic to aquatic life (Copper ion) ※ from IUCLID

13. DISPOSAL CONSIDERATIONS

1) Disposal consideration

Observe all environmental regulations.

2) Disposal precaution

Keep in suitable, closed containers for disposal.

14. TRANSPORT INFORMATION

1) UN TDG : Not dangerous goods

2) IMDG : Not dangerous goods

3) IATA : Not dangerous goods

4) Marine pollution : Not applicable

5) Special precaution

Fire EmS Guide : F-A (Recommendation)

Spillage EmS Guide : Not dangerous goods

15. REGULATORY INFORMATION

1) Korea Industrial Safety and Health Act (GHS) : Not applicable

2) Korea Hazardous Materials Safety Control Act : Not hazardous material

3) Korea Chemicals Control Act : Not toxic chemical

4) Korea Persistent Organic Pollutants Control Act : Not applicable

5) US OSHA Hazards (GHS) : Not applicable

16. OTHER INFORMATION

1) Issued Date : 2013. 06. 30

2) Revision No. : 6

3) Revision Date : 2019. 01. 02

4) References