Material Safety Data Sheet

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MSDS No.	BW- 0891

1. Product Information

Product name	Classification	Material(Single or mixed)	Shape
Cu Wire (EX1)	Copper	Cu-Pd coated	Wire

2. Summary of Hazards and Toxicity

GHS Classification		
	Specific target toxicity following single exposure	Classification 3
	Specific target toxicity following repeated exposure	Classification 1
	Chronic hazards to the aquatic environment	Classification 4
GHS Label Element		
	Display Image or a Symbol	 **It is dangerous when Copper material changes into powder, particulate, fume .**
	Attention-seeking Words	Danger
	Hazards and Toxicity Information	Causes damage to organs(Liver) through prolonged or repeated exposure. A fine particulate/fume may stimulate membrane,such as a nose,a throat, a trachea, and a bronchus, and cause inflammation. Poisonous fume is generated by heating of a fire etc. Dermatitis may be started when the skin is contacted. If a copper fine particle is inhaled, the inflammation of lungs, stomachache, vomiting, diarrhea, and a blood obstacle may be caused. Toxic to aquatic life with long lasting effects.
	Caution Statement	
	Safety Measures	Do not use this product for other than bonding application. Poisonous fume is generated by heating of a fire etc. Do not use this product until you read and understand all the safety precaution. Do not eat and drink or smoke during soldering operation. Be sure to wash your hands before meal or after completion of operation. Be sure to wear protective gloves and protective glasses. Avoid direct exposure by using personal protectors and a ventilator. Avoid inhaling dust. Avoid skin contact and inhalation of gas during bonding operation. Provide local ventilation during bonding operation. Avoid emission to environment.
	First Aid Measures	In case of fire, take appropriate fire extinguishing measures. In case of particulate ingestion during bonding operation, flush mouth with plenty of water. Do not induce vomiting, Seek medical attention immediately. In case of eye contact of particulate during bonding operation, flush with plenty of water. In case of gas inhalation during bonding operation, remove to fresh air. Keep warm and rest.
	Storage	Avoid such place with high temperature and high humidity and do not directly expose to sun rays.
	Disposal	All disposal methods must be in compliance with all Federal, State, Provincial and local laws and regulations
Physical and Hazardous Effect		No relevant information found
Name of the Classification		Not applicable to any classification level

3. Identification of material

Chemical name	Chemical formula	Content (weight %)	CAS No.
[1] Copper	Cu	97.3-99.2	7440-50-8
[2] Palladium	Pd	0.8 - 2.7	7440-05-3

4. Emergency and First Aid Measures

If material contacts the skin	Thoroughly wash with cold or lukewarm water, and soap.
If material gets into eyes	Immediately wash eyes with clean, running water. Seek medical attention.
If material is inhaled	Immediately gargle with water, blowing the nose. Seek medical attention.
If ingested by error	Let the victim swish the mouth out with water and induce vomiting. Immediately seek treatment by a physician.

5. Fire Fighting Measures

How to extingushh fire	There are almost no restriction to fire extingushing.
Extinguishing agent	Not combustible
Protection of Fire Fighters	In case of fire, be sure to wear appropriate protectors such as mask and battle fire.

6. Accidental Release Measures

It takes care that a fine particulate is not inhaled or muddy water does not flow out.
Immediately sweep the dispersed material, and collect to an empty container .
Wear protective gear, such as gloves and a mask as required by the cleaning work.

7. Precautions for Handling and storage

Handling	A protection implement is used and a worker prevents from touching a substance. Do not inhale the steam of a substance, and a coarse particulate.
Storage	Keep in an indoor storage area. (clean-room) No oxidizing acids are made to be near

8. Exposure Controls, Personal Protection

Permissible concentration	(1)ACGIH advice value(2007) Copper fume TLV-TWA 0.2 mg/m^3 Copper fine particulate TLV-TWA 1mg/m^3 (2)OSHA Copper fume PEL-TWA 0.1 mg/m^3 Copper fine particulate PEL-TWA 1mg/m^3
Action to take on facility	When generation a fine particulate, it is desirable to use part wxhaust equipments to external scattering using the equipment which seals the source of emmision as much as possible.
Protective gear	Respiratory protection : Required at all times. Protective eyeglasses : Required at all times. Protective gloves : Required at all times.

9. Physical/chemical properties

Configuration as supplied	Wire
External appearance	Silver white color
State	Solid
Odor	None
Specific gravity	Approx. 8.96 (g/cm^3)
Vapor point	2570 (°C)
Melting point	1083 (°C)

10. Stability and Reactivity

Solubility	Water : Insoluble It is early invaded by oxidizing acid or its acid solustion.
Flash point	None
Ignition point	None
Explosive limits	(Lower limit) --- vol. (%) (Upper limit) --- vol. (%)
Explosiveness	None for solid
Reactivity/stability	Stable under normal condition It is danger when it mixes (a strong acid and strong oxidizer agent, an acid chloride, halogen, acetylene, etc.)

11. Information on toxicity

Acute toxicity	Dermatitis may be started when the skin is contacted. If a copper fine particulate is inhaled, the inflammation of lungs, stomachache, vomiting, diarrhea, and a blood obstacle may be caused.
Irritability to skin	No data available.
Irritability	A coarse particulate stimulates membrane and an upper respiratory tract.
Germ cell mutagenicity	No data available.
Carcinogenicity	No data available.
Toxic to reproduction	No data available.
Specific target toxicity	(Respiratory trct irritation) May cause respiratory irritation.
Specific target toxicity	Causes damage to organs(Liver) through prolonged or repeated exposure.

12. Information on environmental impact

Acute hazards to the aquatic	No data available.
Chronic hazards to the aquatic environment	Toxic to aquatic life with long lasting effects.

13. Precautions for disposal

It commission a special contractor.
If it is so much, It uses for resources recovery.

14. Precautions in transportation

Take care that there is no breakage of a container.
No oxidizing acids are made to be near

15. Applicable laws

Industrial Safety and Health Law	Section 18-2 Hazardous elements which should be disclosed (Cu: Copper and its compound)
Labor Standard Act	Chemical substance which causes the medical compensation (Metal heat by copper fume)
Basic Environmenn Law	Environmental-standard(Air pollution, Water pollution, Soil pollution)

16. Other Information (Reference literature, etc.)

Daily Chemical Industry News Co., Ltd	Chemical product No. 12996.
	International Chemical Material Safety Card.
	A Comprehensive Bibliography of Applicable Laws by the Chemical.
	Laws Applicable to Chemicals.
Institute of Labor Standards Investigation	Handbook of Industrial Safety and Health Law
Labor Science Research Institute	Science of Labor

In editing this Material Safety Data Sheet, [we have omitted any item for which the reference or data were not available.
This sheet is subject to revision to reflect new findings.
All information contained in this sheet is based on the best knowledge of this company. The sheet is not intended to be a warranty of the completeness or accuracy of the information therein. Any chemical must be handled with utmost precaution as it may have an unknown toxicity. A decision relative to the suitability of a chemical for any particular application shall be the responsibility of the user.

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