

Material Safety Data Sheet

Product name : Cu-based silver plated leadframe

Date prepared : Sep 21th, 2009

Rev07

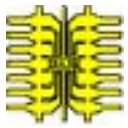
1. Product and Company Identification

Product name	Cu-based silver plated leadframe
Chemical family	Metal leadframe
Manufacturer	Dong Guan Chang An QPL Electronics Factory No 1, Pin Zhi Road, Xin An Industrial Park, Chang An Town, Dong Guan 523860, China Phone: 86-769-85391118
Emergency assistance	8/F Hale Weal Industrial Building, 22-28 Tai Chung Road, Tsuen Wan, New Territories, Hong Kong SAR Phone: (852) 24065111

2. Composition / Information of ingredients (% by weight)

Constituent	CAS No.	EFTEC64T	CDA194	C7025	CDA151	KLF125	KFC
Cu	7440-50-8	Balance	Balance	Balance	Balance	Balance	Balance
Fe	7439-89-6	-	2.100-2.600	0.20max	0.005 max	-	0.05-0.15
Si	7440-21-3	-	-	0.250-1.200	-	0.6-0.75	-
Mn	7439-96-5	-	-	0.10max	0.005 max	-	-
Ni	7440-02-0	-	-	2.200-4.200	-	3.00-3.40	-
Zr	7440-67-7	-	-	-	0.050-0.150	-	-
P	7723-14-0	-	0.015-0.150	-	-	-	0.025-0.04
Zn	7440-66-6	0.180-0.260	0.050-0.200	1.0max	-	0.20-0.35	-
Mg	7439-95-4	-	-	0.050-0.300	-	-	-
Pb	7439-92-1	-	0.01 max	-	-	-	-
Cr	7440-47-3	0.200-0.300	-	-	-	-	-
Co	7440-48-8	-	-	-	-	-	-
Sn	7440-31-5	0.230-0.270	-	-	-	1.00-1.50	-
Al	7429-90-5	-	-	-	0.005 max	-	-
Ag	7440-22-4	0.0738-1.998	0.0738-1.998	0.0738-1.998	0.0738-1.998	0.0738-1.998	0.0738-1.998
*Polyimide	Trade secret				0.0936 min		
*NBR	9003-18-3				0.0156 max		
*Bismaleimide	79922-55-7				0.0156 max		
*Phenol resin	28453-20-5				0.0134 max		

Remark: The compositions highlighted with asterisk (*) are from the tape material.



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3. Hazardous Identification

Inhalation	Not applicable
Ingestion	Not applicable
Skin	Skin contact with this material may cause, in some sensitive individual, an allergic response if element such as copper and nickel are present.
Eye	Particulate metal (dust) may be dangerous to the eye and surrounding tissue.
Toxicity	There is no information on the toxicity of this material. Under normal handling and use of the solid form of this material, there are few health hazards.

4. First Aid Measures

Inhalation	Breathing difficulty caused by inhalation of dust requires remove to fresh air. If breathing has stopped, perform artificial respiration and obtain medical assistance at once.
Ingestion	Swallowing metal powder or dust can be treated by having the affected person swallow large quantities of water and attempting to induce vomiting if conscious. Obtain medical assistance at once. Never give liquids to an unconscious person.
Skin	Skin cuts and abrasions can be treated by standard first aid. Skin contamination with dust or powder can be removed by washing with soap and water. If irritation persists, obtain medical assistance at once.
Eye	Dust or powder should be flushed from the eyes with copious amounts of clean water. If irritation persists, obtain medical assistance. Contact lenses should not be worn if working with metal dusts and powders.

5. Fire Fighting Measures

Not Applicable.



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6. Accidental Release Measures

Not Applicable.

7. Handling And Storage

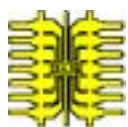
Handling	Good housekeeping in order to prevent the accumulation of dust.
Storage	Store in original sealed packing filled with nitrogen (N2). Storage condition: 21.5+/-6.5 and relative humidity <70%.

8. Exposure Controls/Personal Protection

Ventilation	Good general ventilation should be sufficient for most condition.
Respiratory Protection	For most conditions, no respiratory protection should be needed; however, in dusty atmospheres, wear a NISOH approved respirator to protect from dust.
Eye protection	For most condition, no eye protection should be needed; Wear safety glasses when risk of eye injury is present, for example, metal powder handling.
Skin protection	Wear clean body covering clothing. Wear gloves to prevent metal cuts and skin abrasions.

9. Physical And Chemical Properties

Freezing point	Not applicable
Vapor pressure (mmHg)	Not applicable
Melting point / Boiling point	Not applicable
Solubility in water	Insoluble in water
Vapor density (Air=1)	Not applicable
Evaporation rate	Not applicable
Appearance	Solid (Copper color with silver at pad & coined lead)
Odor	No odor



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10. Stability And Reactivity

Flash point	None
Flammable limits	None (LFL: not applicable, UFL: not applicable)
Extinguishing media	Leadframe is noncombustible. Use of extinguishing media appropriate to the surrounding fire.
Chemical stability (Conditions to avoid)	Leadframe is a stable material. Contact with strong acids, bases or oxidizing agents. Contact with acetylene may form unstable acetylides. Burns spontaneously in gaseous chlorine. Acetic acid may form poisonous verdigris.
Incompatibility (Materials to avoid)	Mercury, acetylene, chlorine, hydrogen, peroxide.

11. Toxicological Information

The products comply with RoHS & WEEE directive and REACH regulation.

12. Ecological Information

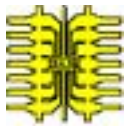
Waste disposal Method	Maximize product recovery for reuse or recycling. Follow federal, state and local regulations to ascertain proper disposal procedure.
Environmental hazards	In solid form this material poses no special environmental problem, avoid overexposure by using protection equipment.

13. Disposal Considerations

Waste disposal	Maximize product recovery for reuse or recycling. Follow federal, state and local regulations to ascertain proper disposal procedure.
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14. Transport Information

Transportation and hazardous material description	Not a hazardous material for shipping
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15.Regulatory Information

The products comply with RoHS & WEEE directive and REACH regulation.

16.Other Information

Not applicable.

Additional Information

This information in this document is believed to be correct as of the date issued. However no warranty of merchantability, fitness for any use, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from use of this information or the product, the safety of this product, or the hazards related to its use. This information and the product are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use thereof.