






Leadframe Safety Data Sheet

Section 01 Chemical Product and Company Identification	
Product type	EFTEC64T (Base material) + Ni + Pd +Au (Plating layer1~3)
Maker	OHKUCHI MATERIALS CO., LTD
Address	Ohkuchi Ushio 1755-2, Isa-city, Kagoshima 895-2501, Japan
Telephone	+81-995-22-8421
Contact person	Yasuo Toyoshi
Issued Date	2016/01/28

Section 02 Classification of GHS				
Composition	Hazardous content	Level	Caution info.	Symbol
Ni	Inhalation/skin sensitivity	Level.1	Warning	 
	Carcinogen	Level.2	Warning	
	Reproduction toxicity	Level.1B	Danger	
	Body & internal organ toxicity (Single-Repeat exposure)	Level.1	Danger	

Note: For base material, pls refer attachment (Supplier MSDS).

Section 03 Composition and Information on Ingredients			
Material type	Composition	CAS No.	Weight(%)
Base material	Cr	7440-47-3	0.25%
	Sn	7440-31-5	0.25%
	Zn	7440-66-6	0.20%
	Cu	7440-50-8	Balance (Min.89%)
Plating layer 1	Ni	7440-02-0	0.30~9.00%
Plating layer 2	Pd	7440-05-3	0.04~0.80%
Plating layer 3	Au	7440-57-5	0.001~0.1%

Section 04 First Aid Information	
First Aid	Eye Contact : Immediately flush out fume and dust particles with large amounts of water. If eye irritation develops, call a physician at once.

Information in Different Exposed Way	Skin Contact : If exposed to dust and fume, wash skin with plenty of water.
	Ingestion : If dust is ingested, immediately blow nose and rinse mouth, and then drink water to dilute. Consult a physician if symptoms develop.
	Inhalation : If symptoms of lung irritation occur, remove from exposure area to fresh air immediately. Keep affected person warm and at rest. Get medical attention.
	Hazards Effects : None known.
	Notes to Physicians : There is no specific antidote to the active ingredients in this product; use symptomatic treatment.

Section 05 Fire Fighting Measures

Flash point	Not applicable
UEL	Not applicable
LEL	Not applicable
Flammability Classification	Not applicable
Extinguishing Media	Non-flammability
Unusual Fire and Explosion Hazards	Metal product does not present fire or explosion hazards
	Under normal conditions.
Fire-Fighting Methods	Not specified
Hazardous Combustion Products	Non-flammability

Section 06 Accidental Release Measures

Precautions and Equipment	Not applicable for solid
Methods For Clean-up	Not applicable for solid
Personal Precaution	Not applicable for solid

Section 07 Handling And Storage

Handling	Put safety gloves on to protect your hands from edges of products which might cut your hands.
	Wear safety glasses when metal powders or chips are expected to be generated in the work.
Storage	The environment of stocking area should be free from acid, alkali, chloride,
	sulfide and other corrosive chemicals to prevent from rusting or corrosion.

Section 08 Exposure Controls And Personal Protection

Eye	Wear safety glasses when metal powders or chips are expected to be generated in the work.
Skin	Put safety gloves on to protect your hands from edges of coils which might cut your hands.

Ingestion	Protection not normally needed.
Inhalation	Respiratory protection not normally needed. If dusting or chipping or powder occurs or fumes are generated, use a half-face or full-face respirator or mask.
Engineering Control	Local exhaust ventilation is recommended if significant dusting occurs or fumes are generated. Otherwise, use general exhaust ventilation.
General Hygiene Considerations	Do not eat, drink, or smoke while using this product in dust form.
Comment	Wearing a mask be recommended in the work such as abrasion and buffing which generates metal powders or chips.

Section 09 Physical And Chemical Properties	
Appearance	A solid body having metallic gloss
pH	Not applicable
Boiling Point	Not applicable
Decomposition	Not applicable
Temperature	Melting Point 1081°C (Base material)
Flash Point	Not applicable
Auto-ignition Temperature	Not applicable
Explosion Properties	Not applicable
Vapor Pressure	Not applicable
Vapor Density(Air=1)	Not applicable
Solubility In Water	Negligible

Section 10 Stability And Reactivity	
Chemical Stability	Stable under normal temperature and pressure.
Conditions To Avoid	The condition of stocking area should be free from acid, alkali, chloride, sulfide and other corrosive chemicals to prevent from rusting or corrosion.
Materials To Avoid	The condition of stocking area should be free from acid, alkali, chloride, sulfide and other corrosive chemicals to prevent from rusting or corrosion.
Hazardous Decomposition Products	Will not occur

Section 11 Toxicological Information	
Emergency Overview	In solid form (ordinary service condition), this material is not
	hazardous. Dust and fumes are hazardous materials.
Potential Health Effects	Eye : Dust or fume can cause irritation consisting, swelling, and pain. May cause conjunctivitis with repeated exposures.
	Skin : Material not expected to be absorbed through skin. Contact with dust may cause mild irritation consisting of redness and/or swelling.
	Ingestion : Ingestion of large amounts of dust may cause nausea, vomiting, constipation, cramps, and or stomach pain.

	Inhalation : Inhalation of high concentrations of powder, dust, or fume may cause respiratory and irritation, coughing, and difficulty breathing.	
HMIS CODE	Health : Not available	Flammability : Not available
	Physical Hazard : N/A	Personal Protection : N/A
Physical and Chemical Hazards	Unknown.	
Specific Hazards	Unknown.	

Section 12 Ecological Information

Hazard Identification	Refer Section 2
-----------------------	-----------------

Section 13 Disposal Information

Waste From Residues	The user of this material has the responsibility to dispose of unused material residues and containers in compliance with all relevant local, state and laws and regulations regarding treatment, storage and disposal for hazardous and non-hazardous wastes.
---------------------	--

Section 14 Transport Information

Safety measures and conditions for specific transport	Prevent the collapse of cargo piles in order to avoid falls, slips, and damage. Also pay enough attention to over heat, vibration and so on from moving things.
---	---

Section 15 Regulatory Information

Chemical Substance Management Guidelines	Ni; Class I Designated Chemical Substance
Poisonous and Deleterious Substances Control Act	Not apply
Industrial Safety and Health Act	Not apply

Section 16

<Notice>

To the best of our knowledge, certain and suspicious hazards are described herein for use in safety. However, we can't guarantee safety of the product, the accuracy and completeness of the information contained herein. The user must have final responsibility of hazards.

Revision history

Rev	Effective date	Page	Changes	Appoved by	Prepared by
Rev.0	2010-11-16	-	New document	T.Takemoto	T. Hosokawa
Rev.1	2011-02-25	-	Revise items	T.Takemoto	T. Hosokawa
Rev.2	2013-01-29	1st	Add plating wt%	T.Takemoto	T.Hosokawa

Rev.3	2013-09-24	All	Correct error Change company name	T.Takemoto	T.Hosokawa
Rev.4	2015-09-23	1st	Review plating wt%	T.Takemoto	R.Yamasaki
Rev.5	2015-10-07	-	Modify the document layout	T.Takemoto	R.Yamasaki
Rev.6	2016-01-28	1st	Review plating wt%	T.Takemoto	Y.Toyoshi