



TA-I Group

Passive Component

# Material Safety Data Sheet (MSDS)

## Section 1: Manufacturer Information:

<b>Name</b>	<b>TA-I TECHNOLOGY CO., LTD</b>		
<b>Product</b>	Thick Film Chip Resistor & Chip Array Series (RM / CN / CNC Series) Remark : RM /CN / CNC are same raw materials		
<b>Manufacture Address</b>	No.26, Lane 470 , Nan-Shan Rd., Sec. 2 , Lu -Chu Hsiang , Taoyuan ,Taiwan , R.O.C		
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## Section 2: Composition/ Information On Ingredients:

<b>Ingredient</b>	<b>Equation</b>	<b>CAS NO.</b>	<b>Wt :%</b>
Aluminum trioxide	Al <sub>2</sub> O <sub>3</sub>	1344-28-1	60~90
Silver (Metallic)	Ag	7440-22-4	1~5
Palladium (Metallic)	Pd	7440-05-3	<0.3
Glass	----	65997-18-4	<2
Ruthenium oxide	RuO <sub>2</sub>	12036-10-1	<0.5
Copper Oxide	CuO	1317-38-0	<0.2
Chromic Oxide III	Cr <sub>2</sub> O <sub>3</sub>	1308-38-9	<0.3
Boron Compound	B <sub>2</sub> O <sub>3</sub>	1303-86-2	<0.1
Zinc Oxide	ZnO	1314-13-2	<0.1
Calcium Oxide	CaO	1305-78-8	<0.1
Lead and Lead Compounds	PbO	1317-36-8	<0.5
Bismuth	Bi	7440-69-9	<0.1
Manganese oxide	MnO <sub>2</sub>	1313-13-9	<0.1
Resins (Epoxy / Phenolic)	Epoxy	25068-38-6	1~3
Silicon dioxide	SiO <sub>2</sub>	14808-60-7	<0.5
Organic Phosphate	----	5116-95-0	<0.1
Chromic	Cr	7440-47-3	<0.6
Nickel Compounds	Ni	7440-02-0	<8
Tin	Sn	7440-31-5	<6

## Section 3: Hazards Identification

Contact	May cause eye, skin tract irritation.
Inhalation	Not likely to be inhaled due to physical form.
Ingestion	May cause harm in digestive organs. Lead Compounds may cause lead poisoning.

## Section 4: First-Aid Measures

Eye	1. Flush the irritated eyes with clean water at least 5mts 2. Go medical check at once.
Skin	Not likely to harm unless the skin cut. Normal operative aid for skin-cut.
Inhalation	1. Remove or clean the inhalation. 2. Relocate the inhaled one for fresh air. 3. CPR operation at once the occurrence of hard breathing. 4. Prompt doctor diagnosis.

Ingestion	<ol style="list-style-type: none"> <li>1. No any further ingestion while conscious-less.</li> <li>2. Water rinse the mouth as if well conscious being.</li> <li>3. No any aid for vomit</li> <li>4. 240-300ml water drinking</li> <li>5. Repeat gargling and drinking as if physical vomit</li> <li>6. CPR as if breathing halt</li> </ol>
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## Section 5: Fire-Fighting Measures

Fire-Fighting	Approved pressure demand breathing apparatus and protective clothing should be used for all fires.	
Extinguishing Media	Water spray and Foam or Dry Chemical, CO2	
Hazardous Combustion Products	Fume may be emitted during a fire.	
Flash Point	Lower Flammable Limit	N/A
	Lower Flammable Limit	N/A

## Section 6: Accidental Release Measures

Sweep and gather up material and place in proper container for disposal or recovery.

## Section 7: Handling And Storage

Handling	Apply aggressive housekeeping activities to prevent dust accumulation.
Storage	Store in cool and dry room away from heat, dampness, spark or fire.

## Section 8: Expose Controls/ Personal Protection:

Engineering Controls	A continuous supply of fresh air to the workplace together with removal of processing fumes through exhaust system is recommended.
Eye/Face	Wear safety glasses with side shield
Skin	Avoid prolonged or repeated contact with skin.
Ventilation	Local

## Section 9: Physical And Chemical Properties

Physical Form	Solid
Specific Gravity	>1
Appearance And Odor	Black, slight odor
Melting Point	N/A
Boiling Point	N/A
Solubility In Water	Insoluble
Volatiles	Negligible
PH	N/A

## Section 10: Stability And Reactivity

Stability	Generally stable
Reactivity	Not reactive under recommended conditions of handling and storage
Material To Avoid	Oxidizing agents

## Section 11: Toxicological Information

Oral Toxicity	Lead may cause lead poisoning
Dermal Toxicity	Product not considered primary skin irritant
Inhalation Toxicity	Processing fumes from similar products are not considered toxic.
Eye Irritation	Product not considered primary eye irritant

## Section 12: Ecological Information

General: Not expected to present any significant ecological problems.

**Section 13: Disposal Consideration**

Waste disposal should be in accordance with State and Local Environmental Regulations.

**Section 14: Transportation Information**

Keep away from oxidizing materials and source of ignition. Transportation should be in accordance with State and Local Environmental Regulations.

**Section 15: Regulatory Information**

Follow all regulations in your country.

**Section 16: Other Information**

Department	Engineering Department		
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