



**GRACE ELECTRON CORP. (GUANGZHOU)**

**廣州宏仁電子工業有限公司**

Add: No.1 Yunpu 1<sup>st</sup> Road, Luogang District, Guangzhou, China

Tel.: 0086-20-82266188

Fax: 0086-20-82264258

## **MATERIAL SAFETY DATA SHEET**

- 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**
- 2. HADARDS IDENTIFICATION**
- 3. COMPOSITION**
- 4. FIRST AID MEASURES**
- 5. FIRE FIGHTING MEASURES**
- 6. ACCIDENTAL RELEASE MEASURES**
- 7. HANDLING AND STORAGE**
- 8. CONTACT CONTROL/PERSONAL PROTECTION**
- 9. PHYSICAL AND CHEMICAL PROPERTIES**
- 10. STABILITY AND REACTIVITY**
- 11. TOXICOLOGICAL INFORMATION**
- 12. ECOLOGICAL INFORMATION**
- 13. DISPOSAL CONSIDERATIONS**
- 14. TRANSPORT INFORMATION**
- 15. REGULATION INFORMATION**
- 16. OTHER INFORMATION**



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## **MATERIAL SAFETY DATA SHEET**

**GA-170-LL**

### **1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

CHEMICAL PRODUCT NAME: Copper Clad Laminates (GA-170-LL)  
COMPANY: GRACE ELECTRON CORP. (GUANGZHOU)  
ADDRESS: No.1 Yunpu 1<sup>st</sup> Road, Luogang District, Guangzhou, China.  
POST CODE: 510530  
FAX: 0086-20-82264258  
EMERGENCY CALL OF COMPANY: 0086-20-13802731873  
TECHNOLOGY DESCRIPTION NO: MSDS- GA-170-LL  
DATE OF TAKING EFFECT: April 14, 2016  
MAIN PURPOSE: Used in PCB  
EMERGENCY CALL OF COUNTRY: 110(Accident); 119 (Fire); 120(Casualty)

### **2. HADARDS IDENTIFICATION**

FATALNESS CATEGORY: No relative data  
INCURSION: Dust from trimming, drilling and milling operations can break the body by inbreathing and touching.  
HEALTHY HARMFULNESS: Dust from trimming, drilling and milling operations may cause skin irritation to the eye and the respiratory tract.  
ENVIRONMENT HARMFULNESS: Not expected to cause any environment harmful.  
EXPLOSIVE DANGEROUSNESS: No explosive substances

### **3. COMPOSITION**

THE PRODUCTS ARE MIXTURE

INGREDIENT NAME	WEIGHT%	CAS No.
Copper	3~96%	7440-50-8
Fiber Glass	1~56%	65997-17-3
Resin	3~41%	/

REMARK: This product does not contain reportable hazardous ingredients as defined by the OSHA Hazard Communication Standard (29CFR1910, 1200).

### **4. FIRST AID MEASURES**

It is indicated that discomfort or injury cause by dust from trimming, drilling and milling operations.

SKIN TOUCH: Wash it with water or soap to prevent dust from entering skin pores.

EYE CONTACT: Take victim away the pollution area, wash eyes with abundance water at least 15 minutes and consult a physician if necessary.

ABSORPTION: Take victim away the pollution area and send for a doctor if necessary.

EAT: Consult a physician if eat.



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### **5. FIRE FIGHTING MEASURES**

**DANGER CHARACTERISTIC:** High temperature, open flame and oxidant may cause on fire and poisonous gas.

**HAZARDOUS COMBUSTION PRODUCTS:** CO, CO<sub>2</sub>, HBr, smoke, ash

**EXTINGUISHING MEDIA:** Water, CO<sub>2</sub> and dry chemical is unfit it.

**PRECAUTION FOR FIRE FIGHTING:** Firemen should wear fire-defense clothes, breathing apparatus, fire-defense glove and so on.

### **6. ACCIDENTAL RELEASE MEASURES**

Not applicable, material is a solid.

### **7. HANDLING AND STORAGE**

**HANDLING:** Keep the good industrial hygiene action. During trimming, drilling and milling operations minimize the chance of inhalation of dusts and contact with skin and eyes. Provide adequate ventilation.

**STORAGE:** Store in a dry place away from moisture, excessive heat and sources.

### **8. CONTACT CONTROL/PERSONAL PROTECTION**

**MAX TOLERANCE CONSISTENCE:** No relative data

**TEST METHOD:** Arithmometer for dust particle

**ENGINEERING CONTROL:** Use exhausts ventilation for control dust

**RESPIRATORY PROTECTION:** Use dustproof respirator when trimming, drilling and milling

**EYE PROTECTION:** Wear safety glasses when trimming, drilling and milling

**BODY PROTECTION:** Wear dustproof smock when trimming, drilling and milling

**HANDS PROTECTION:** Wear dustproof gloves when trimming, drilling and milling

### **9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE AND PHYSICAL STATE:** Yellow solid, no odor at room temperature and normal pressure

**MELTING POINT:** No relative data

**DENSITY (WATER= 1) :** >1

**BOILING POINT:** No relative data

**VAPOUR DENSITY:** No relative data

**FLASH POINT:** No relative data

**LOWER EXPLODE LIMIT:** No relative data

**FLAMMABLE POINT:** 440 °C

**UPPER EXPLODE LIMIT:** No relative data

**WATER SOLUBILITY:** Insoluble

**MAJOR USE:** Substrate for printed circuitry; Multilayer Boards



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### **10. STABILITY AND REACTIVITY**

STABILITY: Being stable under the conditions of room temperature and normal pressure

MATERIALS TO AVOID: Strong oxidizing agents.

CONDITIONS TO AVOID: If being attacked by oxidizing agents and over 125°C, the material will decompose with the time.

HAZARDOUS POLYMERIZATION: None

DECOMPOSITION PRODUCTS: CO, CO<sub>2</sub>, HBr

### **11. TOXICOLOGICAL INFORMATION**

ACUTE TOXICITY: Have no acute toxicity

STIMULATION: Dust from trimming, drilling and milling operations may cause middling irritation to the eye and the skin.

### **12. ECOLOGICAL INFORMATION**

ECOLOGICAL TOXICITY: No relative data

BIODEGRADABILITY: Not biodegradable

NONBIODEGRADABILITY: No relative data

### **13. DISPOSAL CONSIDERATIONS**

WASTE PROPERTY: Organic Resin Waste (HW13)

WASTE DISPOSAL: 1. Recycled is encouraged, i.e. copper portion of laminate.

2. Landfill in accordance with state and local requirements.

3. Burns down with the control to Process

WASTE NOTE: When abandoned should ensure that not cause the pollution to the environment

### **14. TRANSPORT INFORMATION**

DANGEROUS COMMODITY CODE: No relative data

UN CODE: No relative data

SIGN OF PACKING: No relative data

CLASS OF PACKING: No relative data

PACKING: With PE filter film kraft paper packing

PRECAUTION: 1. Prevents moistly

2. The product may cause slip, scratch when the vehicle is stop and start suddenly.



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### **15. REGULATION INFORMATION**

< Hazardous chemical materials safety management regulations >(Effective as of December 1,2011 )

The product did not be included the <General rule for classification and hazard communication of chemicals GB13690-2009>

The product did not be included the <List of dangerous goods GB12268-2012>

### **16. OTHER INFORMATION**

FILLING DATE: April 14, 2016

FILLING DEPARTMENT: Tech. and R&D Dept. Grace Electron Corp. (GUANGZHOU)

Data review department: Tech. and R&D Dept. Grace Electron Corp. (GUANGZHOU)

USERS NOTICE: The user should read and understand this material, According to application demand judge the usability

REVISIONS NOTE: Amendment according to <Safety data sheet for chemical products-Content and order of sections GB16483-2008>