

Safety Data Sheet

Section One: Chemical Product and Manufacturer

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| Chemical Product Name : Epoxy Woven Fiberglass Copper Clad Laminate |
| Other Name : NPG-151 |
| Suggestion Application and Restriction Application: --- |
| Manufacturer's , Importer's and Supplier's Address and Telephone : 55, Wei-Wong Street, Su-Lin City, Taipei County, Taiwan, R.O.C. Tel: +886-2-2680-6311 |
| Emergency Telephone/Fax : +886-02-26806311 ext.2706/Fax:+886-02-26807234 |

Section Two: Hazardous Ingredient Identification

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| Chemical Product Harmful Category : --- |
| Major Symptom: --- |
| Other Harm: --- |

Section Three: Ingredient Identification

Copper Clad Laminate is composed of fully cured (C-stage) prepreg and adhered with copper foil. Resin components include non-halogenated organic elements and other trace elements of volatile organic materials.

Mixture : Resin, E-Glass Fabric and Copper Foil

| Chemical Property: | | |
|--------------------|----------------------------|----------------------------|
| Substance Name | Concentration (Percentage) | Substance Category(CAS No) |
| E-Glass Fabric | 30~60% | 65997-17-3 |
| Copper Foil | 10~30% | 7440-50-8 |
| Epoxy Resin | 30~60% | 29690-82-2 |
| Fillers | 10~30% | 21645-51-2 |
| DOPO | 10~30% | 35948-25-5 |

Section Four: First Aid Measures

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| First aid measures for different ways of exposures: Inhalation: Immediately flush mouth and nose with large amounts of temperate water. Skin contact: Use compressed air to blow the skin and clothes. Wash skin thoroughly with water with mild soap. Eye contact: Immediately use water to flush the eyes and seek medical attention. First-Aid for accidental ingestion: Force to vomit, flush the mouth with water, and seek immediate medical attention.. |
| Most Important Symptom and Harmful Effect: Sensitive reaction from skin contact with dusts ; Skin cuts or bruises from careless trimming operation.. |
| Protection to the First-Aid Personnel: N/A |
| Hints to the Medical Doctor: N/A |

Section Five: Fire Fighting Measures

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| Proper Extinguishing Media: Water spray, dry chemical powder, or carbon dioxide. |
| Possible Special Harm during Fire Fighting: Inhalation of smoke from burning. |
| Special Fire Fighting Procedure: N/A |
| Special Protection Equipment for Fire Fighter: Wear full bunker gear including a positive pressure self-contained breathing apparatus in any close place. |

Section Six: Accidental Release Measures

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| Personal Attention: Solid Substance, No Risk of Leakage |
| Environmental Attention: N/A |
| Clean Up Measure: N/A |

Section Seven: Safe Handling and Storage

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| Holding: NA |
| Storage: Packed: Room Temp. → 2 years |

Section Eight: Special Protection

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| Engineering Control: NA |
| Control Parameter: Average acceptable daily density for 8 hours/Average acceptable density for short period/Highest acceptable density: N/A Biological Index: N/A |
| Personal Protection Equipment: Respiratory Protection: Micro dusts and particles may come out from drilling, edge trimming, and cutting. Dust collection should be used during these processes, and operator should wear gauze mask to prevent inhalation. Hand Protection: Wearing cotton gloves may help keep scraps from hurting personnel during handling. Eye Protection: Not necessary, but wearing safety glasses or face shield when machining or sawing can help avoid dust contact during operation Skin & Body Protection: NA |
| Hygiene Measure: NA |

Section Nine: Physical and Chemical Properties

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| Substance Status: Solid | Shape: Pieces in flat rectangle pieces |
| Color: Light Yellow | Smell: N/A |
| PH Value: 6~7 | Boiling Point/Range: N/A |
| Decomposition Temp.: N/A | Fire Flash Point: N/A °C Test Method: Open Cup Close Cup |
| Temperature of Spontaneous Combustion: N/A | Explosion Limit: N/A |
| Steam Pressure: N/A | Steam Density: N/A |
| Specific Gravity: 2.00~2.10 | Dissolution: Not water soluble |

Section Ten: Stability and Reactivity

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| Stability: Stable Under Room Temperature |
| Possible Harmful Reaction Under Special Condition: During combustion |
| Conditions to be avoided: Stored in temperature .higher than 21°C at RH more than 50% unpacked. |
| Incompatible Materials: Stay away from fire, strong acid, strong oxidizers, and related chemicals |
| Hazardous Decomposition: Hydrocarbon of variable compositions. |

Section Eleven: Toxicological Information

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| Urgent Toxicity : NA |
| Partial Effect : NA |
| Sensitization : NA |
| Slow or Long Term Toxicity : NA |
| Special Effect : NA |

Section Twelve: Ecological Information

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| Possible Environmental Effect/Environmental Flow : NA |
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Section Thirteen: Disposal Measures

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| Method of Disposal: Proper landfill after complete burning. |
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Section Fourteen: Transport Information

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| International Transportation Regulation : NA |
| United Nation Code : NA |
| Domestic Transportation : Laminated by Truck |
| Special Delivery measures and attention : NA |

Section Fifteen: Regulatory Information

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| Regulation Applied : NA |
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Section Sixteen: Other Information

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| Reference Document | NA | |
| Business Unit | Name : CCL Technical Dept., Electronic Materials Div. Nan Ya Plastics Corporation. | |
| | Address/Phone : No.55, Wei-Wang Street, Shu-Lin district, New Taipei city, Taiwan, R.O.C. | |
| Drawer | Title : Quality Assurance Specialist | Title : Quality Assurance Specialist |
| Date | 2019.07.03 | |