

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TLM-170(t) LAMINATE
PRODUCT USE: Substrate for printed circuitry
MANUFACTURER: THAI LAMINATE MANUFACTURER CO.,LTD.
70 Soi Chalongkrung31, Lat Krabang Industrial Estate
Chalongkrung Rd, Kwang Lumplatew, Lat Krabang
Bangkok 10520, THAILAND

PHONE: (66) 2-326-0693
FAX: (66) 2-326-0016
EMERGENCY CALL: (66) 2-739-4434

SECTION 2: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

No dangerous reactions or decomposition products known under proper handling and storage conditions.

HAZARD CLASSIFICATION: Not a hazardous substance, this product dose not meet the physical, health or environment classification criteria of the Globally Harmonozed System.

HAZARD PICTOGRAM:



SIGNAL WORDS: Warning

HAZARD STATEMENT: None

PRECAUTIONARY STATEMENT: None

OTHER HAZARDS: None

POTENTIAL HEALTH HAZARDS:

SKIN: Dust may cause moderate skin irritation

EYES: Dust may cause moderate eye irritation. Fumes may irritate eyes.

INHALATION: Fibrous glass dust may be released from the fiberglass cloth substrate when machined.

INGESTION: Not determined

DELEYED EFFECTS: Our product is reinforced with continuous filament fiberglass. Dust generated from the cutting, grinding, machining, etc., would not be expected to produce respirable particles. IARC considers continuous filaments as unclassifiable or probably non-carcinogenic.

SECTION 3: COMPOSITION/INFORMATION ON IDENTIFICATION

INGREDIENT NAME	CAS#	%
Fiber Glass	65997-17-3	30-40
Brominated Epoxy Resin	26265-08-7	30-60
Inorganic Filler	21645-51-2	10-20
Copper	7440-50-8	0-80

SECTION 4: FIRST AID MEASURES

SEEK IMMEDIATE MEDICAL ATTENTION IF IRRITATION OCCURS

INHALATION: Remove the person to fresh air.

EYE: Flush with running water for 15 minutes. If irritation persists, consult a physician.

SKIN: Remove contaminated coating. Wash skin thoroughly with soap and tepid water.

INGESTION: Not determined.

SECTION 5: FIRE FIGHTING MEASURES

GENERAL INFORMATION:

Product is inflammable, but self extinguishing (UL94 V-0). Extinguishing activities should be done according to general fire fighting activities; avoid contact with evaporating gases from the product;



THAI LAMINATE MANUFACTURER CO.,LTD

SAFETY DATA SHEET (SDS)

(MSDS)

TLM-170(t)

Page 2 of 3

FLAMMABLE PROPERTIES: N/A

FLASH POINT: N/A

FLASH POINT METHOD: N/A

AUTOIGNITION TEMPERATURE: Not determined

UPPER FLAME LIMIT (Volume % in air): N/A

LOWER FLAME LIMIT (Volume % in air): N/A

FLAME PROPAGATION RATE (Solids): UL V-0

OSHA FLAMMABILITY CLASS: N/A

EXTINGUISHING MEDIA: Water, CO₂ and dry chemical

UNUSUAL FIRE AND EXPLOSION HAZARDS: May give off toxic hydrogen bromide when thermally decomposed.

SPECIAL FIREFIGHTING PRECAUTIONS/INSTRUCTIONS: Fireman should wear proper protective equipment and positive pressure self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

INCASE OF SPILL OR OTHER RELEASE: Not Applicable

SECTION 7: HANDLING AND STORAGE

HANDLING:

Evolution of glass dust during cutting and routing - take the necessary steps to avoid contact (exhausting systems, goggles or safety glasses, gloves, air filtration mask, protection clothing etc) when machine cutting / punch generate dust.

Copper Clad Laminate, cured composite parts and resins are solid articles and do not expose a health hazard.

STORAGE:

Room temperature. Shelf life 2 years.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROL: Use local exhaust to control dust.

PERSONAL PROTECTIVE EQUIPMENT:

- RESPIRATORY PROTECTION: Dust generated during cutting, trimming and drilling should be use local exhust during these processes, and operator should wear gauze mask to prevent inhalation. May require the use of a NIOSH approved respirator.
- SKIN PROTECTION: Wear gloves during prolonged contact to avoid skin irritation from dust.
- EYE PROTECTION: Use safety glasses or a face shield when machining, grinding or cutting this material.
- WORK/HYGIENE PRATICES: Good personal hygiene should be exercised be all users of this product.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPERANCE: Yellow to amber sheet

PHYSICALSTATE: Solid

ODOR: None

SPECIFIC GRAVITY: 1.85 +/- 0.25

SOLUBILITY IN WATER: Negligible in water

BOILING POINT: N/A

MELTING POINT: 120-260 ° F

VAPOR PRESSURE (mm. Hg and Temperature): N/A

VAPOR DENSITY (Air = 1.0): N/A

EVAPORATION RATE: N/A

SECTION 10: STABILITY AND REACTIVITY

NORMALLY STABLE: Stable

INCOMPATIBILITIES: Strong acids, strong bases and some metallic salts.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrocarbon of variable composition, hydrogen bromide, bromine, CO_x, NO_x

HAZARDOUS POLYMERIZATION: Will not occur



SAFETY DATA SHEET (SDS)

(MSDS)

TLM-170(t)
Page 3 of 3

SECTION 11: TOXICOLOGICAL INFORMATION

Nontoxic ,dust produced during mechanical handling may cause irritation of eye , skin and respiratory tract .

SECTION 12: ECOLOGICAL INFORMATION

POSSIBLE ENVIRONMENTAL EFFECT/ENVIRONMENTAL FLOW: N/A

SECTION 13: DISPOSAL CONSIDERATIONS

GENERAL: Follow all applicable local, government regulations. Copper should be recycled.

SECTION 14: TRANSPORT INFORMATION

International Transportation Regulation: N/A

SECTION 15: REGULATION INFORMATION

EPA TOXIC SUBSTANCES CONTROL ACT (TSCA): All of the components of this product are listed on the TSCA inventory.

SECTION 16: OTHER INFORMATION

CURRENT ISSUE DATE: Jul 22, 2019
PREVIOUS ISSUE DATE: Jun 5, 2019