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MATERIAL SAFETY DATA SHEET

PRODUCT: FB650M LAMINATE

Developed by: ajk

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: FB650M LAMINATE

Address/Phone No. Taconic
136 Coonbrook Road
Petersburgh, NY. 12138
Phone number: USA – 518-658-3202
Emergency phone number: USA – (CHEMTREC) 800-424-9300

Product Description: Military: Type GFN: NEMA: FR-4

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS number</u>	<u>Exposure Limits</u>	<u>% by Wt.</u>
Glass Fiber*	65997-17-3	OSHA PEL – 15 mg/m ³ ACGIH TLV – 5 mg/m ³	40 – 70
Copper*	74440-50-8	OSHA PEL – 1 mg/m ³ ACGIH TLV – 1 mg/m ³	8 - 28
Epoxy Resin	26265-08-7	TBD TBD	20 – 35

*Dust values shown

3. HAZARDS IDENTIFICATION

Emergency Overview Non-flammable sheet material

Use of this product is not normally considered hazardous however if cut, sawed, sanded, etc., dust may be generated which may irritate the lungs. Laser drilling or cutting may result in copper metal fumes. Additionally, elevated temperatures above 300°C may result in thermal decay of product and may release carbon monoxide, carbon dioxide, hydrogen bromide and nitrogen oxides. The decomposition may cause eye and respiratory irritation. Moving the individual to fresh air will generally alleviate the symptoms. See/contact physician immediately for medical attention.

Potential Health Effects:

EYE: Normally none, however, if product is heated above 300°C or laser drilled; resultant air emissions may cause temporary irritation (tears, blurred vision, and redness). Rinsing eyes with clean water for 15 minutes will alleviate effects. See/contact physician.

SKIN: Normally none, however, if dust is generated in the use of this product, wash skin with normal soap and

water. Additionally, if product is heated above 300°C, air emissions may cause skin irritation. Washing skin with soap and water will alleviate symptoms. See/contact physician.

INGESTION: Normally not a concern and swallowing small amounts of this product is unlikely to cause harmful effects however, see/contact a physician if ingestion occurs.

INHALATION: Normally not a concern, however, if the product is cut, sawed, sanded, etc., dust may be created. Additionally, laser drilling may create copper fumes. Appropriate respiratory protection is warranted. Additionally, if the product is heated above 300°C, it may create air emissions that cause temporary irritation to lungs. Breathing moderate amounts of semi-combusted material during thermal degradation may result in a loss of breathing comfort. Moving the patient to fresh air will alleviate the symptoms. See/contact physician.

CHRONIC (CANCER) INFORMATION: No known data available

TERATOLOGY (BIRTH DEFECT) INFORMATION: No known data available

REPRODUCTIVE INFORMATION: No known data available

POTENTIAL ENVIRONMENTAL EFFECTS: Generally stable however copper released into the environment may negatively impact localized plants and animals in the vicinity and down gradient of the release.

4. FIRST AID MEASURES

EYE: Immediately flush eyes with water for at least 15 minutes. Get medical attention

SKIN: Wash with soap and water. Get medical attention if irritation develops or persists.

INGESTION: If swallowed, get medical attention.

INHALATION: Remove patient from exposure, Remove to fresh air. If not breathing, give artificial respiration. Get immediate medical attention.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES:

FLASHPOINT: N/A

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition of product above 300°C can create carbon monoxide, carbon dioxide, and hydrogen bromide.

EXTINGUISHING MEDIA: Use appropriate extinguishing media for surrounding products.

FIRE FIGHTING INSTRUCTIONS: Use full bunker gear and respiratory protection.

6. ACCIDENTAL RELEASE MEASURES

Solid – collect with hands, broom, shovel and place in non-hazardous waste collection container for later disposal.

7. HANDLING AND STORAGE

This product presents minimal hazards to people handling them in accordance to their operating and storage specifications. The primary health hazard associated with this product is the generation of dust due to cutting,

punching, sanding operations. The secondary health hazard associated with this product is the inhalation of thermal decomposition products when product is subjected to temperatures greater than 300°C due to accidental fire, unintended use or inappropriate disposal practices.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Normally none are recommended. If however, cutting, sawing sanding, etc. of the product is necessary, a properly designed dust collection system is recommended at the source of cutting.

RESPIRATORY PROTECTION: Not required for normal use of the product. For emergency conditions where thermal decomposition of product is occurring, self-contained breathing apparatus is recommended. If working in a dusty environment, wear a NIOSH/MSHA approved dust respirator.

SKIN PROTECTION: Due to basic product handling processes, gloves – of any abrasion strength, are recommended to minimize cuts due to handling the product.

EYE PROTECTION: Due to basic product handling processes, protective eye wear (i.e., safety glasses) are recommended to minimize particulate entry or puncture to the eyes.

9. PHYSICAL AND CHEMICAL PROPERTIES.

Physical Form –yellow to amber thin sheet material

Boiling Point – N/A

Specific gravity – 1.50 +/- 0.25

PH – N/A

Odor – None unless heated

10. STABILITY AND REACTIVITY

STABILITY: Stable

CONDITIONS TO AVOID: Keep away from flames and spark producing equipment

INCOMPATIBILITY: Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition of product above 300°C can create carbon monoxide, carbon dioxide, and hydrogen bromide.

11. TOXICOLOGICAL INFORMATION

No known data

12. ECOLOGICAL INFORMATION

No known data

13. DISPOSAL INFORMATION

Land-filling or incineration under approved, authorized controlled conditions is acceptable for disposal. Disposal should be in accordance with local, state or national legislation. Recycling of copper foil or copper etchant solution (as applicable) used in the follow-on manufacturing processes is recommended.

14. TRANSPORT INFORMATION

No known restrictions

15. OTHER REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA: Not listed on TSCA chemical Inventory

SARA Title III: Base material not listed

SARA 313: Copper – shipped within the laminate as an “*article*” from Taconic – CAS.NO. 7440-50-8 may need to be listed in the “*end-users*” inventory of chemical/metal usage.