

MATERIAL SAFETY DATA SHEET**SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

PRODUCT NAME: ECCOSTOCK® FFP

DESCRIPTION: One-part Epoxy System containing fillers.

INTENDED USE: **Load Low Loss/Low Dielectric Foam Product** - Designed to infiltrate densely populated electronic packages, readily filling void space around components when vibrated in place.

COMPANY NAME: Emerson & Cuming Microwave Products, Inc.
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CONTACT PHONE NUMBER: 781-961-9600
DATE OF MSDS REVISION: 09-19-2011

SECTION 2. COMPOSITION AND INFORMATION ON INGREDIENTS

ELEMENT	CAS NUMBER	WEIGHT (%)	OSHA PEL* (mg/m ³)	
			TWA	STEL
Soda Lime Borosilicate Glass	Not Available	30-60	10	NE
Epoxy Resin	Not Available	40-70	10	NE
Amorphous Silica	7631-86-9	<2	80 ÷% SiO ₂	NE

*ACGIH TLVs different from OSHA PELs are shown in brackets. NE = Not Established.

SECTION 3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS: Respiratory tract irritation, skin irritation, eye irritation

INHALATION: Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.

INGESTION: Harmful if swallowed. Will cause irritation of gastrointestinal tissue.

SKIN:	Contains materials which cause moderate skin irritation and aggravate existing skin conditions. Product is a dermal allergen.
EYES:	Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.
CHRONIC HEALTH EFFECTS:	None known.
TARGET ORGANS:	Lungs, skin, eyes
CARCINOGENICITY:	Amorphous Silica: IARC-3
CONDITIONS AGGRAVATED BY EXPOSURE:	Exposure may aggravate preexisting skin, eye, gastrointestinal and/or respiratory disorders.

SECTION 4. EMERGENCY AND FIRST AID MEASURES

INHALATION:	Remove victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get immediate medical attention.
INGESTION:	Dilute by giving plenty of water to drink, if victim is conscious and alert. Never give anything by mouth to a drowsy, unconscious, or convulsing person. Get immediate medical attention.
SKIN:	Remove any contaminated clothing and flush the affected area of the skin thoroughly with plenty of water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.
EYES:	Flush eyes thoroughly with water for at least 15 minutes while holding eyelids open. Get medical attention.
MEDICAL TREATMENT:	Treat symptoms and eliminate overexposure.

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT (°F):	>200						
EXPLOSIVE LIMITS:	Not Established. Contains organic dust with a minimal explosive concentration of 26 g/m ³ .						
EXTINGUISHING MEDIA:	Not Available						
SPECIAL FIREFIGHTING PROCEDURES:	Firefighters/rescue personnel should wear positive pressure self-contained breathing apparatus and full protective equipment. Cool exposed containers with water to prevent pressure buildup. If large quantities of material are involved, evacuate area and fight fire from a safe distance.						
UNUSUAL FIRE/EXPLOSION HAZARDS:	Decomposition and combustion products may be toxic. Closed containers may violently rupture under fire conditions.						
NFPA AND HMIS RATING:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Flammability: 0</td> <td style="width: 33%;">Health: 2</td> <td style="width: 33%;"></td> </tr> <tr> <td>Reactivity: 0</td> <td>Special Hazards: none</td> <td></td> </tr> </table>	Flammability: 0	Health: 2		Reactivity: 0	Special Hazards: none	
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Reactivity: 0	Special Hazards: none						

SECTION 6. ACCIDENTAL RELEASE MEASURES

Spill response operations must be conducted in accordance with the provisions of OSHA 29 CFR 1910.120. Review the entire MSDS before proceeding with spill response.

Activate available exhaust ventilation equipment in the immediate spill area. Sweep up spilled material, avoiding generation of airborne dusts. Wash area with soapy water to remove residue. Collect spilled material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

SECTION 7. HANDLING AND STORAGE

The recommendations described in this section are provided as general guidance for minimizing exposure when handling this product. Because usage conditions will vary depending on customer application, specific safe handling procedures should be developed by a person knowledgeable in the intended usage conditions and equipment. Employees must be properly trained in safe handling of this product prior to use.

PERSONAL PROTECTION: This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield selected with regard to conditions of usage and exposure potential. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves, a proper chemical-resistant apron and additional impervious clothing to prevent skin contact, contamination of clothing and possible skin absorption. Normal work clothing should be washed before re-use. Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower should be available.

VENTILATION RECOMMENDATIONS AND RESPIRATORY PROTECTION: Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values. The type of protection selected (SCBA, air-purifying, etc.) will depend on the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

STORAGE: Store in a cool, dry location with adequate ventilation. Keep container tightly sealed when not in use. Keep away from open flames and heat sources. Consult the product Technical Bulletin for detailed storage information.

SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

VENTILATION AND ENGINEERING CONTROLS: Provide effective mechanical exhaust ventilation to draw vapors, mists or fumes generated during processing away from the worker and prevent routine inhalation. This is necessary especially during

elevated temperature processing. Ventilation must be sufficient to maintain airborne levels of Section 2 ingredients below their PEL/TLV values.

The type of protection selected (SCBA, air-purifying, etc.) will depend on the conditions of use. Observe OSHA regulations for respiratory protection (29 CFR 1910.134).

Wear appropriate protective gloves to minimize skin contact.

Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield selected with regard to conditions of usage and exposure potential.

Wear a proper chemical-resistant apron and additional impervious clothing to prevent all skin contact, contamination of clothing and possible absorption through the skin. Normal work clothing should be washed before reuse.

Wash hands and face thoroughly after handling this product and before eating, drinking or smoking. Emergency eye wash facilities and safety shower must be available.

RESPIRATORY PROTECTION:

PROTECTIVE GLOVES:

EYE PROTECTION:

OTHER PROTECTIVE EQUIPMENT:

OTHER REQUIREMENTS:

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Fine white powder
ODOR:	Odorless
VOLATILE ORGANIC COMPOUND CONTENT:	<0.5%
PHYSICAL STATE:	Solid
BOILING POINT (°F):	Not Determined
VAPOR PRESSURE @ 25°C:	Not Applicable
EVAPORATION RATE:	Not Determined
SPECIFIC GRAVITY (WATER=1):	<0.7
VAPOR DENSITY:	Not Applicable
SOLUBILITY IN WATER:	Slight

SECTION 10. STABILITY AND REACTIVITY

Product is stable under normal handling and storage conditions. Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

INCOMPATIBILITY: Strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, imidazoles may cause hazardous polymerization.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, aldehydes, phenols, aniline, amines, acids and other organic substances may be

formed during combustion. Silicon tetrafluoride is produced when dissolved in hydrofluoric acid. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.

HAZARDOUS POLYMERIZATION:

Will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity not established for product as a whole. Amorphous silica: LD50 Rat oral >22,500 mg/kg, LD50 Mouse oral >15,000 mg/kg.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Fate and Exposure not established for product as a whole. Amorphous silica: LC50 Carp >10,000 mg/l/72 hr.

SECTION 13. DISPOSAL CONSIDERATIONS

Maximize product recovery for reuse or recycling. Waste must be disposed of in accordance with federal, state and local environmental control regulations. If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristic. Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24). Use may also generate liquid wastes with metal concentrations in excess of those permitted through pretreatment or direct discharge NPDES requirements. Appropriate analyses should be conducted to ensure compliance with existing wastewater permits.

SECTION 14. TRANSPORT INFORMATION

DOT HAZARDOUS MATERIAL DESCRIPTION: Not Applicable
PROPER SHIPPING NAME: Not Applicable
DOT HAZARD CLASS: Not Applicable
DOT ID: Not Applicable
CANADIAN TRANSPORTATION OF DANGEROUS GOODS CLASSIFICATION: Not Applicable

SECTION 15. REGULATORY INFORMATION

TSCA Status: All components of this product are listed in the EPA Toxic Substance Control Act Inventory.

SECTION 16. OTHER INFORMATION

DISCLAIMER OF LIABILITY

The information contained herein is based upon data considered true and accurate. However, Emerson & Cuming Microwave Products makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or the results to be obtained from the use thereof. This information is offered solely for the user's consideration, investigation and verification. Since the use and conditions of use of this information and the material described herein are not within the control of

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