

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

**PRODUCT NAME:** ECCOSORB® MF500-110, MF500-112, MF500-114, MF500-116, MF500-117, MF500-124

**GENERAL CHEMICAL DESCRIPTION:** Cured Epoxy Resin

**INTENDED USE:** **Load Absorber** - Rigid, magnetically loaded epoxide rod, bar and sheet materials (High temperature version of the ECCOSORB® MF series).

**COMPANY NAME:** Emerson & Cuming Microwave Products, Inc.  
**ADDRESS:** 28 York Ave, Randolph, MA 02368

**EMERGENCY PHONE NUMBER** CHEMTREC USA: 1-800-424-9300  
 INTERNATIONAL: 703-527-3887 (COLLECT)

**CONTACT (TITLE):** Elizabeth Sinkiewicz  
 Production Manager  
 781-437-1731

**DATE OF MSDS REVISION:** 09-19-2011

**SECTION 2. COMPOSITION AND INFORMATION ON INGREDIENTS**

ELEMENT	CAS NUMBER	WEIGHT (%)	OSHA PEL* (mg/m <sup>3</sup> )	
			TWA	STEL
(Mineral Fillers Encapsulated Within Cured Epoxy) Iron Powder		80-90	NE [1]	NE

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

**SECTION 3. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW:** Non-flammable. Get medical attention if symptoms persist.

**POTENTIAL HEALTH EFFECTS:** Respiratory tract irritation

**INHALATION:** Inhalation of dusts resulting from machining of cured material may be irritating to eyes, nose and throat.

**INGESTION:** Ingestion of dust or small pieces of material may be harmful.

**SKIN:** None Known.

**EYES:** None Known.

**CHRONIC HEALTH EFFECTS:** Exposure to filler material listed in Section II is unlikely to occur unless machining of the cured product results in generation of dust particles.

**TARGET ORGANS:** Respiratory system

**CARCINOGENICITY:** Not Established

**CONDITIONS AGGRAVATED BY EXPOSURE:** Exposure may aggravate respiratory disorders.

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#### **SECTION 4. EMERGENCY AND FIRST AID MEASURES**

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**INHALATION:** Remove to fresh air.

**INGESTION:** Do not induce vomiting. Administer Heimlich Maneuver if victim is choking. Get medical attention.

**SKIN:** Not Established

**EYES:** Not Established

**MEDICAL TREATMENT:** Seek medical attention if symptoms persist. Treat symptoms and eliminate overexposure.

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

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**FLASH POINT (F°):** NA

**EXPLOSIVE LIMITS:** NA

**EXTINGUISHING MEDIA:** Carbon dioxide, dry chemical, foam, water fog

**SPECIAL FIREFIGHTING PROCEDURES:** Firefighters should wear self-contained breathing apparatus.

**UNUSUAL FIRE/EXPLOSION HAZARDS:** Toxic vapors may be evolved upon direct contact with open flame.

**NFPA AND HMIS RATING:** Flammability: 0 Health: 1  
Reactivity: 0 Special Hazards: none

**AUTOIGNITION TEMPERATURE:** NA

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

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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.

**SMALL SPILLS:** NA

**LARGE SPILLS:** NA

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

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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:** Good local ventilation should be used when sanding or grinding cured material to avoid inhalation of nuisance dusts. Dust masks should be used in absence of local ventilation.

No special storage, ventilation, or personal hygiene precautions necessary.

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## SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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**VENTILATION AND ENGINEERING CONTROLS:** Good local ventilation should be used.

**RESPIRATORY PROTECTION:** Dust masks should be used.

**PROTECTIVE GLOVES:** Wear appropriate protective gloves to minimize skin contact.

**OTHER REQUIREMENTS:** 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.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE:** Solid sheet

**ODOR:** NA

**VOLATILE ORGANIC COMPOUND CONTENT:** NA

**PHYSICAL STATE:** Solid

**BOILING POINT (°F):** NA

**VAPOR PRESSURE @ 25°C:** NA

**EVAPORATION RATE:** NA

**SPECIFIC GRAVITY (WATER=1):** >2

**VAPOR DENSITY:** NA

**SOLUBILITY IN WATER:** NA

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## SECTION 10. STABILITY AND REACTIVITY

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Product is stable under normal handling and storage conditions.

**INCOMPATIBILITY:** None Known.

**CURED MATERIAL:** Non-reactive

**CONDITIONS TO AVOID:** Direct contact with open flame

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## SECTION 11. TOXICOLOGICAL INFORMATION

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General information for iron ions and inorganic and organic iron compounds.

Toxicity not established for product as a whole. Iron: Probable oral lethal dose (Human) 0.5-5 g/kg or between 1 oz and 1 pint (or 1 lb) for 70 kg person (150 lb).

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## SECTION 12. ECOLOGICAL INFORMATION

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Iron: Iron compounds may be released through weathering of soil and rocks. Ionic iron compounds would exist in the particulate phase in air, and these compounds may be removed from the air by wet and dry deposition. Common oxidation states of iron under environmental conditions are +2 and +3, with the +3 state preferred under oxidizing conditions. In general, metal cations in solution are attracted to the negatively charged surfaces of soil particles. Iron(III) ions have been shown to be strongly retained by humic and fulvic acid fractions separated from soils. Iron(II) and (III) ions form strong complexes with fulvic acid. Adsorption of iron depends on soil organic matter and pH; an increase in either of these factors will usually increase adsorption. The mobility of iron ions in soils is influenced as well by redox potential, with iron being more mobile under reducing than under oxidizing conditions. Chelating agents (e.g., nitrilotriacetic acid, NTA) may enhance the mobility of iron in soils. Iron compounds would not volatilize from moist or dry soil surfaces, due to their ionic character. Iron ions are retained on organic matter found in environmental waters. In solution, aquated (ions with bound water molecules) iron(III) ions are expected to hydrolyze or form complexes. At pH<1 the hexaaqua ion ((Fe(H<sub>2</sub>O)<sub>6</sub>)<sup>3+</sup>) is the predominated species, as the pH increases above 1, a stepwise hydrolysis occurs (e.g., the first hydrolysis forms (Fe(H<sub>2</sub>O)<sub>5</sub>(OH))<sup>2+</sup>). Between pH 1-2 various species of hydroxo and oxo iron compounds may be formed. Above pH 2 colloidal gels are formed, giving a precipitate of the red-brown gelatinous hydrous iron oxide (rust). In the presences of complexing anions, such as chloride, the hydrolysis of iron(III) is more complicated and can result in chloro, aqua, and hydroxo species. Iron(II) ions would be expected to be oxidized to iron(III) under most environmental conditions. Iron(II) hydroxide is precipitated from solution by base and is rapidly oxidized in air giving hydrated iron(III) oxide (rust). Iron(II) ion is also oxidized by other common oxidants, such as nitrite and nitrate. Iron(II) and (III) ions can form complexes with ligands containing halide, nitrogen, oxygen, sulfur donor groups. Volatilization from water surfaces will not occur due to the ionic character of iron compounds.

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## SECTION 13. DISPOSAL CONSIDERATIONS

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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.

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## SECTION 14. TRANSPORT INFORMATION

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**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

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## SECTION 15. REGULATORY INFORMATION

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TSCA Status: All compounds of this product are listed in the EPA Toxic Substance Control Act Inventory.  
SARA Status: This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

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## SECTION 16. OTHER INFORMATION

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