

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

PRODUCT NAME: ECCOSORB® CR500, PART X

DESCRIPTION: Epoxy

INTENDED USE: Load Absorber - High temperature version of the ECCOSORB® CR 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 PERCENT	OSHA PEL* (mg/m ³)	
			TWA	STEL
Iron Powder	7439-89-6	50-90%	NE	NE
Epoxy Resin	25068-38-6	10-40%	NE	NE

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

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May cause skin and eye irritation. uncontrolled mixing with amines, anhydrides, mercaptans, and imidazoles may cause hazardous polymerization.

POTENTIAL HEALTH EFFECTS

INHALATION: Heating can generate vapors that may cause respiratory irritation, nausea and headaches. Inhalation hazard at room temperature is unlikely, due to the low volatility of this product.

INGESTION: Harmful if swallowed.

SKIN:. Contains materials which cause moderate skin irritation. Prolonged or repeated exposure to the liquid may exert a defatting or drying action on the skin, possibly resulting in dermatitis. This product may cause skin sensitization/allergic skin reactions which may be severe in certain individuals; symptoms include rash, itching, hives, swelling of the extremities.

EYES: Contains materials irritating to the eyes. Symptoms may include blurred vision, burning sensation and tearing.

CHRONIC HEALTH EFFECTS: Although the significance is unknown, the DGEBA epoxy resin in this product has been shown to be mutagenic in some microbial tests, but has failed to show mutagenicity in others. Chromosomal aberrations were observed in cultured rat liver cells. Two-year bioassays on mice exposed by the dermal route to DGEBA resins yielded only very limited evidence of weak carcinogenicity. Based on this and other evidence, the International Agency for Research on Cancer (IARC) concluded in 1988 that DGEBA epoxy resins are not classifiable as carcinogens.

TARGET ORGANS: skin, eyes and respiratory system

CARCINOGENICITY: Not classifiable as a human carcinogen.

CONDITIONS AGGRAVATED BY EXPOSURE: Exposure may aggravate preexisting skin and/or eye disorders.

SECTION 4. EMERGENCY AND FIRST AID MEASURES

INHALATION: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the affected person warm and at rest. Get medical attention as soon as possible.

INGESTION: If swallowed, do not induce vomiting. This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

SKIN: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Follow by washing with soap and water. Get medical attention if irritation persists. Do not reuse contaminated clothing until properly cleaned.

EYES: If this chemical contacts the eyes, immediately wash (irrigate) the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately.

MEDICAL TREATMENT: Treat symptoms and eliminate overexposure.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point:	> 200		
Explosive Limits:	Not established		
Extinguishing Media:	Use carbon dioxide, dry chemical, foam, water fog.		
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:	Flammability: 1	Health: 2	
	Reactivity: 0	Special Hazards: none	
Autoignition Temperature:	Not established		

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.

Small Spills: Activate available exhaust ventilation equipment in the immediate spill area. Wipe up or absorb spilled material with vermiculite or other similar material. Wash area with soapy water to remove residue. Collect absorbed material and water rinses in appropriate containers. Dispose of in accordance with current Federal, State, and local regulations.

Large Spills: Limit access to the immediate spill area. Shut off source of the release if this can be done without risk of injury. Activate available exhaust ventilation systems in the area. Dike area to contain the spill and prevent releases to sewers, drains or other waterways. Collect spilled material for salvage/disposal. Apply absorbent material to soak up residue. Wash area with soapy water. Prevent runoff from entering waterways. Transfer absorbed material and water rinses to appropriate waste 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. This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing. 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.

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:

Monitor the workplace to be sure that OSHA PEL levels are not exceeded. Good ventilation is necessary to avoid inhalation.

RESPIRATORY PROTECTION:

Provide effective explosion-proof mechanical exhaust ventilation to draw vapors, mists, or fumes generated during processing away from the worker and prevent routine inhalation. Use an appropriate, properly fitted respirator if exposures exceed PEL/TLV values. The type of respiratory protection selected will depend upon the conditions of use. Observe OSHA regulations for, respiratory protection (29 CFR 1910.134).

PROTECTIVE GLOVES:

Wear appropriate protective gloves to minimize skin contact.

EYE PROTECTION:

This product can cause eye irritation. Prevent eye contact through the use of chemical safety glasses, splash-proof chemical goggles, or face shield.

OTHER PROTECTIVE EQUIPMENT:

This product can cause skin irritation and may cause allergic skin reactions. Wear appropriate protective gloves. If necessary, a proper chemical-resistant apron and additional impervious clothing should be used to prevent skin contact and contamination of clothing.

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black paste
Odor:	Not established
Volatile Organic Compound content:	Negligible
Physical State:	Not established
Boiling Point:	Not established
Vapor Pressure:	Negligible
Evaporation Rate:	Not established
Specific Gravity (water =1):	1.5 - 4.6
Vapor Density:	Not established
Solubility in Water:	Insoluble

SECTION 10. STABILITY AND REACTIVITY

Stability:	Product is stable under normal handling and storage conditions. However, review reactivity data concerning conditions to avoid and incompatible substances.
Incompatibility:	Incompatible with strong oxidizers, acids, bases; uncontrolled mixing with amines, anhydrides, mercaptans, and imidazoles may cause hazardous polymerization.
Hazardous Decomposition Products:	Carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances may be formed during combustion. The chemical nature and quantity of decomposition by-products will vary widely depending on the conditions of combustion.
Hazardous Polymerization:	Hazardous polymerization will not occur; however, review reactivity data concerning conditions to avoid and incompatible substances.
Reactivity:	Conditions to Avoid: Avoid storage in open containers, exposure to open flame or uncontrolled exposure to heat, uncontrolled mixing with curing agents or exposure to incompatible substances.

SECTION 11. TOXICOLOGICAL INFORMATION

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).

SECTION 12. ECOLOGICAL INFORMATION

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(H₂O)₆)³⁺) is the predominated species, as the pH increases above 1, a stepwise hydrolysis occurs (e.g., the first hydrolysis forms (Fe(H₂O)₅(OH))²⁺). 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.

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
Hazard Class:	Not applicable
ID Number:	Not applicable
Packing Group:	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.
SARA Status: This product does not contain any substances regulated by the SARA Section 313 amendments to RCRA.

Special Notes: Volatile Organic Compound (V.O.C.) content as tested in accordance with the Southern California Air Quality Management District Rule 109 (EPA Test Method 24): 2.67 g/l

SECTION 16. OTHER INFORMATION

Abbreviations: NA = Not Applicable NE = Not Established ND = Not Determined
ppm = Parts per Million mg/m³ = Milligrams Per Cubic Meter
C = Ceiling Concentration STEL = Short Term Exposure Limit

Safety Information and additional MSDS: 781-961-9600

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The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.