
SECTION 1 - IDENTIFICATION

PRODUCT (TRADE) NAME: CR Series Vacuum Formed Ceramic Heater

GENERIC FAMILY: Ceramic Fiber

SUPPLIER: OMEGA ENGINEERING, INC.
P.O. BOX 4047
STAMFORD, CT 06907

TELEPHONE: (203) 359-1660

DATE PREPARED:
SUPERSEDES: 2/15/89

SHIPPING NAME (UN NUMBER PER TRANSPORTATION AUTHORITY)
DOT:

EMERGENCY RESPONSE TELEPHONE NUMBERS:
(800) 255-3924 (813) 979-0626

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

HAZARDOUS COMPONENTS (Specific chemical identity, Common Name(s))	OSHA PEL	ACGIH TLV		OTHER LIMITS RECOMMENDED
		8HR	TWA	
Aluminasilicate Fiber	1 Fiber/CC			
Anhydrous Aluminum Silicate	5 mg/m3 (total)			
Silicon Dioxide	10 mg/m3 TLV			

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING POINT: NA
VAPOR PRESSURE (mm Hg): NA
VAPOR DENSITY (Air = 1): NA
SOLUBILITY IN WATER: Yes
SPECIFIC GRAVITY (H2O = 1): NA
MELTING POINT: ND
EVAPORATION RATE (Butyl Acetate = 1): NA
APPEARANCE AND ODOR: Beige or white in color

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method Used): None

FLAMMABILITY LIMITS: LEL: NA UEL: NA

EXTINGUISHING MEDIA: Use extinguishing agent for type of surrounding fire.

SPECIAL FIREFIGHTING PROCEDURES: ND

UNUSUAL FIRE AND EXPLOSION HAZARDS: ND

SECTION 5 - REACTIVITY DATA

STABILITY: Stable under normal conditions. Soluble in hydrofluoric acid, phosphoric acid and concentrated alkali.

INCOMPATIBILITY (Materials to avoid): None known.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Refer to "Notes to Physician" in Section 6.

HAZARDOUS POLYMERIZATION: Will not occur. None in designated use.

SECTION 6 - PRODUCT HEALTH HAZARDS

INHALATION: Warning, possible cancer hazard by inhalation, may be harmful if inhaled.

DELAYED HAZARD: Cristobalites will form after service above 1800 deg F.

INGESTION: If ingestion in sufficient quantity, may cause gastrointestinal disturbances, symptoms may include irritation, nausea, vomiting, abdominal pain and diarrhea.

SKIN: May cause irritation or rash.

EYE: Slightly to moderately irritating. Abrasive action may cause damage to the outer surface of eye. Do not rub eyes.

FIRST AID:

INHALATION: Remove exposed person from source of exposure to fresh air. Some people may be sensitive to a fiber induced irritation to the respiratory tract. If symptoms such as shortness of breath, cough, wheezing or chest pain develop, seek medical attention. If person experiences continued breathing difficulties, administer oxygen until medical assistance can be rendered.

INGESTION: Ingestion is unlikely. If ingested, the preferred method of elimination is through natural gastrointestinal elimination. Drink extra water. Get medical attention if gastrointestinal symptoms develop, for example, irritation, nausea, vomiting, abdominal pain and diarrhea.

SKIN CONTACT: Remove contaminated clothing. Wash area of contact thoroughly with soap and water. Do not rub or scratch exposed skin. Using a skin cream or lotion after washing may be helpful. Get medical attention if irritation persists.

EYE CONTACT: Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Do not rub eyes. Get medical attention if irritation persists.

NOTES TO PHYSICIAN: Thermal decomposition of inorganic binder during first heat of product may release hydrocarbons, including small amounts of formaldehyde and oxides of carbon, initial heat up should be performed in a well ventilated area.

SECTION 7 - HANDLING/STORAGE

Thermal decomposition of the binder from fires or first heat of product may release hydrocarbons, including small amounts of formaldehyde and oxides of carbon. Oxides of silica will also be formed. Use adequate ventilation or other precautions to eliminate exposure to vapors resulting from thermal decomposition of binder.

The toxicologic data indicate that ceramic fiber should be handled with caution. The handling practices described in this MSDS must be strictly followed (see section on Personal Protection Information). In particular, when handling refractory ceramic fiber in any application, special caution should be taken to avoid unnecessary cutting and tearing of the material to minimize generation of airborne dust.

It is recommended that full body clothing should be worn to reduce the possibility of skin irritation. Washable or disposable clothing may be used. Do not take unwashed work clothing home. Work clothes should be washed separately from other clothing. Rinse washing machine thoroughly after use. If clothing is to be laundered by someone else, inform launderer of proper procedure. Work clothes and street clothes should be kept separate to prevent contamination.

Materials in storage or in routine use are not known to pose a health hazard. The primary health risks are when machining materials and during tear outs of previously heated material.

ENVIRONMENTAL INFORMATION:

SPILL OR LEAK PROTECTION: Use vacuum suction with HEPA filters to clean up spilled material. Use wet sweeping or a dust suppressant where sweeping is necessary. Avoid clean up procedures that may result in water pollution. Personal safety, handling and exposure recommendations described elsewhere in this data sheet apply to exposure during clean up of spilled material and must be followed.

WASTE DISPOSAL: This substance, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations; however it could be characteristically hazardous if it is considered toxic, corrosive, ignitable, or reactive according to Federal definitions (40 CFR 261). Additionally, it could be designated as hazardous according to state regulations. This substance could also become a hazardous waste if it is mixed with or comes in contact with a hazardous waste. Check 40 CFR 261 to determine whether it is a hazardous waste. If it is a hazardous waste, regulations at 40 CFR 262, 263, 264, 268 and 270 apply. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate.

The transportation, storage, treatment, and disposal of this waste material must be conducted in compliance with all applicable Federal, state and local regulations and in such a manner as to assure no discharge to a source of drinking water.

SECTION 8 - CONTROL MEASURES (Special Precautions/Supplemental
Information Section)

PERSONAL PROTECTION INFORMATION: The following personal protective guidelines should be followed. However, when the material has been exposed to temperatures greater than 1800 deg F, more extensive precautions are required as outlined below.

EYE PROTECTION: Wear safety glasses or chemical goggles to prevent eye contact. Contact lenses should not be worn unless chemical goggles are also used and care is taken not to touch the eyes with contaminated body parts or materials. Have eye washing facilities readily available where eye contact can occur.

SKIN PROTECTION: Wear gloves, hats and full body covering to prevent skin irritation as necessary.
Supplement:

RESPIRATORY PROTECTION: When handling RCF products it is recommended that NIOSH/MSHA approved respirators be worn as outlined in the table below.

IARC has classified crystalline silica as a group 2A carcinogen (probable human carcinogen, based on laboratory animals inhalation studies).

The OSHA permissible exposure limit (PEL) for cristobalite is 0.05 mg/m³ (respirable dust). The ACGIH threshold limit value (TLV) for cristobalite is 0.05 mg/m³ (respirable dust) (ACGIH 1991-92). Use NIOSH or MSHA approved equipment when airborne exposure limits may be exceeded. Minimal acceptable respirators recommended for given airborne cristobalite concentrations are:

CONCENTRATION (8-hour TWA)	MINIMUM ACCEPTABLE RESPIRATOR TYPE
0-1 fibers/cc or up to 10 times the OSHA PEL for cristobalite.	Optional disposable dust respirator (e.g. 3M 9970 or equivalent). Half face, air-purifying respirator equipped with high-efficiency particulate air (HEPA) filter cartridges (e.g. 3M 6000 series with 2040 filter or equivalent).
5-25 fibers/cc or 50 times the OSHA PEL for cristobalite (2.5 mg/m ³)	Full face, air-purifying respirator with high-efficiency particulate air (HEPA) filter cartridges (e.g. 3M 7800S with 7255 filters or equivalent) or powered air-purifying respirator (PAPR) equipped with HEPA filter cartridges (e.g. 3M W3265S with W3267 filters or equivalent).
Greater than 25 fibers/cc or 50 times the OSHA PEL for cristobalite (2/5 mg/m ³)	Full face, positive pressure supplied air respirator (e.g. 3M 7800S with W9435 hose and W3196 low pressure regulator kit or W3061 high pressure regulator kit connected to clean air supply or equivalent).

If airborne fiber or cristobalite concentrations are not known, as minimum protection, use NIOSH/MSHA approved half face, air-purifying respirator with HEPA filter cartridges.

Insulation surfaces should be lightly sprayed with water before removal to suppress airborne dust. As water evaporated during removal, additional water should be sprayed on surfaces as needed. Only enough water should be sprayed to suppress dust so that water does not run onto the floor of the work area. To aid the wetting process, a surfactant can be used.

After RCF removal is completed, dust-suppressing cleaning methods, such as wet sweeping vacuuming, should be used to clean the work area. If dry vacuuming is used, the vacuum must be equipped with a HEPA filter. Air blowing or dry sweeping should not be used. Dust-suppressing components can be used to clean up light dust.

OMEGA ENGINEERING, INC.
MATERIAL SAFETY DATA SHEET
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PART NO: CR Series
REV. DATE: 5/4/94

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