

# MATERIAL SAFETY DATA SHEET

## Section 1. Product and Company Information

**MANUFACTURER:** Freecom, Inc.  
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**DATE OF PREPARATION:** July 22, 2003

**SUPERCEDES MSDS DATED:** November 14, 2000

**PRODUCT NAME:** CeRam-Floor – Ceramic Aggregate



**CERAMIC AGGREGATE**

## Section 2. Composition and Ingredient Information

Common Name	Chemical Name	CAS Number	Weight %
Ceramic Particles	Ceramic Particles	14808-60-7	100%

### Exposure Limits

INGREDIENT	OSHA PEL (8-HR TWA)	ACGIH TLV (8-HR TWA)
Ceramic Particles	10 mg/m <sup>3</sup>	0.1 mg/m <sup>3</sup>

## Section 3. Physical Data

Description	CeRam-Floor Ceramic Aggregate
<b>Specific Gravity (kg/l)</b>	7.0 lbs/gal (0.84 kg/l)
<b>Boiling Point</b>	>2230°C (4046°F)
<b>Vapor Density (Air = 1)</b>	None
<b>Solubility in Water</b>	Insoluble in water
<b>pH</b>	No data
<b>Appearance and odor</b>	White to tan sand, granular, crushed or ground. No odor or taste.
<b>Density (on average)</b>	22.05 lbs/gal

## Section 4. Fire Fighting Measures

Description	CeRam--Floor Ceramic Aggregate
<b>Flashpoint</b>	Non-flammable
<b>Flammable Limits</b>	None
<b>Extinguishing Media</b>	None required
<b>Unusual Fire and Explosion Hazards</b>	None
<b>Fire Fighting Instructions</b>	N/A

## Section 5. Reactivity Data

Description	CeRam-Floor Ceramic Aggregate
<b>Stability</b>	Stable
<b>Incompatibility</b>	Avoid contact with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, and oxygen difluoride may cause fires.
<b>Hazardous Decomposition Products</b>	Aggregate will dissolve in Hydrofluoric Acid and produce a corrosive gas - silicon tetrafluoride
<b>Hazardous Polymerization</b>	Will not occur.

## Section 6. Health and Safety

Description	CeRam-Floor Ceramic Aggregate
<b>Primary Routes of Exposure</b>	Inhalation
<b>Potential Health Effects</b>	<b>Acute and Chronic:</b> Ceramic particles can affect the lungs if it is inhaled in excessive quantities. Immediate (acute) effects include irritation of the eyes, nose and throat. Prolonged or repeated inhalation of excessive quantities of dust containing respirable ceramic particles for extended intervals may result in a delayed (chronic) pulmonary disease called silicosis. Silicosis is a form of pulmonary fibrosis which under some circumstances may be disabling, progressive and sometimes fatal. This disease is characterized by the presence of typical nodulation in the lungs, persistent cough and shortness of breath. Rapidly developing (acute) silicosis may occur after a short interval of heavy exposure in certain occupations such as sandblasting.
<b>Medical Conditions Aggravated by Exposure</b>	Pulmonary function may be reduced by inhalation of respirable ceramic particles. Also lung scarring produced by such inhalation may lead to a progressive massive fibrosis of the lungs which may aggravate other pulmonary conditions and diseases and which increases susceptibility to pulmonary tuberculosis. Progressive massive fibrosis may be accompanied by right heart enlargement, heart failure, and pulmonary failure. <b>Smoking aggravates the effects of exposure.</b>
<b>Signs and Symptoms of Exposure</b>	Breathlessness, wheezing, cough, sputum production
<b>Carcinogenicity</b>	There is no general consensus in the medical science community, based on epidemiology or other information, supporting that respirable ceramic particles represents a carcinogenic hazard to workers.  <b>NPT:</b> Yes. The National Toxicology Program published its sixth annual report on carcinogens in 1992 which concludes that respirable ceramic particles may reasonably be anticipated to be a carcinogen.  <b>IARC Monographs:</b> Yes. The IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans (Vol. 68, 1997) concludes (with 10 yes and 7 no votes) that there is sufficient evidence for the carcinogenicity of inhaled ceramic particles to humans.

## Section 7. First Aid Measures

Description	CeRam-Floor Ceramic Aggregate
Inhalation	For gross inhalation, remove person immediately to fresh air, give artificial respiration as needed, seek immediate medical attention.
Eyes	For particles in eyes, flush immediately with water.

## Section 8. Precautions for Safe Handling and Use

Description	CeRam-Floor Ceramic Aggregate
<b>Steps to Take if Material is Released or Spilled</b>	Use dustless methods (vacuum) and place in closable container for disposal, or flush with water. <b>Do not dry sweep.</b> Wear protective equipment specified below.
<b>Waste Disposal Method</b>	Dispose of in accordance with Federal, State and local regulations
<b>Precautions to be Taken in Handling and Storage</b>	Avoid breakage of bagged material or spills of bulk material. See control measure in Section 9.
<b>Other Precautions</b>	<p>Use dustless systems for handling, storage and clean up so that airborne dust does not exceed the PEL. Use adequate ventilation and dust collection. Practice good housekeeping. Do not permit dust to collect on walls, floors, sills, ledges, machinery or equipment. Maintain, clean and fit test respirators in accordance with OSHA regulations. Maintain and test ventilation and dust collection equipment. Wash or vacuum clothing which has become dusty. See also control measures in Section 9.</p> <p>See OSHA Hazard Communication Rule 29 CFR Sections 1910.1200, 1915.99, 1917.28, 1918.90, 1926.59, and 1928.21, state and local worker or community "right to know" laws and regulations. <b>We recommend that smoking be prohibited in all areas where respirators must be used. WARN YOUR EMPLOYEES (AND YOUR CUSTOMER-USERS IN CASE OF RESALE) BY POSTING AND OTHER MEANS OF THE HAZARD AND OSHA PRECAUTIONS TO BE USED. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT THE OSHA PRECAUTIONS.</b> See also American Society for Testing and Materials (ASTM) standard practice E1132-86, "Standard practice for Health Requirements Relating to Occupational Exposure to Quartz Dust."</p>

## Section 9. Control Measures

### RESPIRATORY PROTECTION FOR CERAMIC PARTICLES

Particulate Concentration	Minimum Respiratory Protection**
Disposal Considerations	Dispose in accordance with federal, state and local regulations.
5 x PEL or less	Any dust respirator
10 x PEL or less	Any dust respirator, except single-use or quarter-mask respirator. Any fume respirator or hi-efficiency particulate filter respirator. Any supplied-air respirator. Any self-contained breathing apparatus
50 x PEL or less	High efficiency particulate filter respirator with full facepiece. Any supplied-air respirator with a full facepiece, helmet, or hood. Any self-contained breathing apparatus with a full facepiece.
500 x PEL or less	Powered air-purifying respirator w/high efficiency Particulate filter Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous-flow mode
Greater than 500 x PEL	Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive or entry and escape from pressure mode

### RESPIRATORY PROTECTION FOR CERAMIC PARTICLES

Particulate Concentration	Minimum Respiratory Protection**
Unknown concentrations	A combination respirator which includes a Type C supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode

Ventilation	CeRam-Floor Ceramic Aggregate
<b>Local Exhaust</b>	Use sufficient local exhaust to reduce level of respirable ceramic particles to below the PEL. See ACGIH "Industrial Ventilation, A Manual of Recommended Practice."
<b>Mechanical</b>	See "Other Precautions" under Section 8
<b>Special</b>	See "Other Precautions" under Section 8
<b>Other</b>	See "Other Precautions" under Section 8
<b>Protective Gloves</b>	Optional
<b>Eye Protection</b>	Wear protective shield or safety glasses
<b>Other Protective Clothing and Equipment</b>	Optional
<b>Work/Hygienic Practices</b>	Avoid creating and breathing dust. See "Other Precautions" under Section 8

This information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to these ceramic particles. Customer-users of aggregate must comply with all applicable health and safety laws, regulations, and orders.