



## Material Safety Data Sheet

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### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Z-LIGHT SPHERES (TM) Ceramic Microspheres (All Types)  
**MANUFACTURER:** 3M  
**DIVISION:** 3M Specialty Materials

**ADDRESS:** 3M Center  
 St. Paul, MN 55144-1000

**EMERGENCY PHONE:** 1-800-364-3577 or (651) 737-6501 (24 hours)

**Issue Date:** 01/14/2003  
**Supersedes Date:** 10/05/2001

**Document Group:** 06-7780-7

**Product Use:**  
 Specific Use: Lightweight Filler

### SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
CERAMIC MICROSPHERES	66402-68-4	95 - 99.9
QUARTZ SILICA	14808-60-7	0.1 - 5

### SECTION 3: HAZARDS IDENTIFICATION

#### 3.1 EMERGENCY OVERVIEW

**Odor, Color, Grade:** Low density fine powder (between 10um and 450um diameter), gray to white color, odorless

**General Physical Form:** Solid

**Immediate health, physical, and environmental hazards:** May cause target organ effects. Contains a chemical or chemicals which can cause cancer.

#### 3.2 POTENTIAL HEALTH EFFECTS

**Eye Contact:**

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

**Skin Contact:**

Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

**Inhalation:**

Upper Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Lung Effects: Signs/symptoms may include difficulty breathing, cough, wheezing, weakness, increased heart rate, bluish colored skin (cyanosis), sputum production and changes in lung function tests.

**Ingestion:**

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, nausea, diarrhea and vomiting.

**Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Class Description</u>	<u>Regulation</u>
QUARTZ SILICA	14808-60-7	Group 1	International Agency for Research on Cancer
QUARTZ SILICA	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens

**SECTION 4: FIRST AID MEASURES**

**4.1 FIRST AID PROCEDURES**

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

**Eye Contact:** Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

**Skin Contact:** Wash affected area with soap and water. If signs/symptoms develop, get medical attention.

**Inhalation:** Remove person to fresh air. If signs/symptoms develop, get medical attention.

**If Swallowed:** Do not induce vomiting. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get immediate medical attention.

## SECTION 5: FIRE FIGHTING MEASURES

### 5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>

### 5.2 EXTINGUISHING MEDIA

Non-combustible. Choose material suitable for surrounding fire.

### 5.3 PROTECTION OF FIRE FIGHTERS

**Special Fire Fighting Procedures:** Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

**Unusual Fire and Explosion Hazards:** No unusual fire or explosion hazards are anticipated.

**Note:** See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**Accidental Release Measures:** Collect as much of the spilled material as possible.

**In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.**

## SECTION 7: HANDLING AND STORAGE

### 7.1 HANDLING

For industrial or professional use only. Avoid eye contact with dust or airborne particles. Avoid breathing of airborne material. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment.

### 7.2 STORAGE

Store under normal warehouse conditions.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 ENGINEERING CONTROLS**

Provide local exhaust ventilation at transfer points. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control dust, fume, or airborne particles. If ventilation is not adequate, use respiratory protection equipment.

**8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**8.2.1 Eye/Face Protection**

Avoid eye contact.

The following eye protection(s) are recommended: Indirect Vented Goggles.

**8.2.2 Skin Protection**

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Neoprene, Nitrile Rubber.

**8.2.3 Respiratory Protection**

Avoid breathing of dust.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with N95 particulate filters. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

**8.2.4 Prevention of Swallowing**

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

**8.3 EXPOSURE GUIDELINES**

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
QUARTZ SILICA	ACGIH	TWA - respirable	0.05 mg/m3	Table A2
QUARTZ SILICA	OSHA	TWA - respirable	0.1 mg/m3	Table Z-1A

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Odor, Color, Grade:**

Low density fine powder (between 10um and 450um diameter), gray to white color, odorless

**General Physical Form:**

Solid

**Autoignition temperature**

*Not Applicable*

**Flash Point**

*Not Applicable*

**Flammable Limits - LEL**

*Not Applicable*

**Flammable Limits - UEL**

*Not Applicable*

Boiling point	Not Applicable
Density	0.65 - 0.95 g/cm3
Vapor Density	Not Applicable
Vapor Pressure	Not Applicable
Specific Gravity	0.65 - 0.95 [Ref Std: WATER=1]
pH	Not Applicable
Melting point	No Data Available
Solubility in Water	Nil
Evaporation rate	Not Applicable
Volatile Organic Compounds	Not Applicable
Percent volatile	Not Applicable
VOC Less H2O & Exempt Solvents	Not Applicable
Viscosity	Not Applicable

**SECTION 10: STABILITY AND REACTIVITY**

Stability: Stable.

Materials and Conditions to Avoid: None known

Hazardous Polymerization: Hazardous polymerization will not occur.

**Hazardous Decomposition or By-Products**

<u>Substance</u>	<u>Condition</u>
None known.	Not Specified

**SECTION 11: TOXICOLOGICAL INFORMATION**

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

**SECTION 12: ECOLOGICAL INFORMATION**

**ECOTOXICOLOGICAL INFORMATION**

Not determined.

**CHEMICAL FATE INFORMATION**

Not determined.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Waste Disposal Method:** Reclaim if feasible. Dispose of waste product in a facility permitted to accept chemical waste.

**EPA Hazardous Waste Number (RCRA):** Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

## SECTION 14: TRANSPORT INFORMATION

**ID Number(s):**

70-0705-7208-9, 70-0705-7216-2, 70-0705-7217-0, 70-0705-7218-8, 70-0707-4976-0

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

## SECTION 15: REGULATORY INFORMATION

### US FEDERAL REGULATIONS

Contact 3M for more information.

**311/312 Hazard Categories:**

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

### STATE REGULATIONS

Contact 3M for more information.

### CHEMICAL INVENTORIES

This product is an article as defined by TSCA regulations, and is exempt from TSCA Inventory listing requirements.

Contact 3M for more information.

**Additional Information:** This product is an article as defined by TSCA, EINECS, CDSL, MITI, KECI, AICS, PICCS and CICS regulations, and is exempt from chemical inventory listing requirements. Korea and China also require product registration.

### INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

## SECTION 16: OTHER INFORMATION

### NFPA Hazard Classification

Health: 1 Flammability: 0 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

### HMIS Hazard Classification

Health: 1 Flammability: 0 Reactivity: 0 Protection: X - See PPE section.

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

**Reason for Reissue:** The MSDS has been revised because 3M has adopted the 16-section ANSI/ISO format. The potential hazards of the product have not changed. We encourage you to reread the MSDS and review the information.

No revision information is available.

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