SECTION 1: Identification

1.1. Product identifier

3M™ Glass Bubbles, Types K and S
1.2. Recommended use and restrictions on use

Recommended use
Lightweight Filler

1.3. Supplier’s details

MANUFACTURER: 3M
DIVISION: Advanced Materials Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification


2.2. Label elements

Signal word
Not applicable.

Symbols
Not applicable.

Pictograms
Not applicable.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>% by Wt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda Lime Borosilicate Glass</td>
<td>65997-17-3</td>
<td>97 - 100</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
<td>7631-86-9</td>
<td>0 - 3</td>
</tr>
</tbody>
</table>

SECTION 4: First aid measures
4.1. Description of first aid measures

**Inhalation:**
Remove person to fresh air. If you feel unwell, get medical attention.

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

**Eye Contact:**
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

**If Swallowed:**
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

### SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
Non-combustible. Use a fire fighting agent suitable for surrounding fire.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

5.3. Special protective actions for fire-fighters
No special protective actions for fire-fighters are anticipated.

### SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. Observe precautions from other sections.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Use wet sweeping compound or water to avoid dusting. Sweep up. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

### SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial or professional use only. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>C.A.S. No.</th>
<th>Agency</th>
<th>Limit type</th>
<th>Additional Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda Lime Borosilicate Glass</td>
<td>65997-17-3</td>
<td>Manufacturer determined</td>
<td>TWA(as dust):10 mg/m³</td>
<td></td>
</tr>
<tr>
<td>SILICA, AMORPHOUS</td>
<td>7631-86-9</td>
<td>OSHA</td>
<td>TWA concentration:0.8 mg/m³; TWA:20 millions of particles/cu. ft.</td>
<td></td>
</tr>
</tbody>
</table>

ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
CMRG: Chemical Manufacturer's Recommended Guidelines
OSHA: United States Department of Labor - Occupational Safety and Health Administration
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety Glasses with side shields

Skin/hand protection
No chemical protective gloves are required.

Respiratory protection
An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form: Solid
Specific Physical Form: Low density fine powder (< 100 microns)
Odor, Color, Grade: White odorless
Odor threshold: Not Applicable
### pH
No Data Available

### Melting point
No Data Available

### Boiling Point
Not Applicable

### Flash Point
Not Applicable

### Evaporation rate
Not Applicable

### Flammability (solid, gas)
Not Classified

### Flammable Limits (LEL)
Not Applicable

### Flammable Limits (UEL)
Not Applicable

### Vapor Pressure
Not Applicable

### Vapor Density
Not Applicable

### Density
0.1 - 0.6 g/cm³

### Specific Gravity
0.1 - 0.6  [Ref Std: WATER=1]

### Solubility in Water
Negligible

### Solubility - non-water
Not Applicable

### Partition coefficient: n-octanol/ water
Not Applicable

### Autoignition temperature
Not Applicable

### Decomposition temperature
Not Applicable

### Viscosity
Not Applicable

### Molecular weight
No Data Available

### Volatile Organic Compounds
Not Applicable

### Percent volatile
< 0.5 % weight

### Softening point
>= 600 °C

### VOC Less H2O & Exempt Solvents
Not Applicable

---

### SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material is considered to be non reactive under normal use conditions.

**10.2. Chemical stability**
Stable.

**10.3. Possibility of hazardous reactions**
Hazardous polymerization will not occur.

**10.4. Conditions to avoid**
None known.

**10.5. Incompatible materials**
None known.

**10.6. Hazardous decomposition products**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxides of Sulfur</td>
<td>If Breakage Occurs</td>
</tr>
</tbody>
</table>

---

### SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.
11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

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

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

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

**Ingestion:**
May be harmful if swallowed.
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Toxicological Data**
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

**Acute Toxicity**

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda Lime Borosilicate Glass</td>
<td>Dermal</td>
<td></td>
<td>LD50 estimated to be &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td>Soda Lime Borosilicate Glass</td>
<td>Ingestion</td>
<td></td>
<td>LD50 estimated to be 2,000 - 5,000 mg/kg</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
<td>Dermal</td>
<td>Rabbit</td>
<td>LD50 &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
<td>Inhalation-Dust/Mist (4 hours)</td>
<td>Rat</td>
<td>LC50 &gt; 0.691 mg/l</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
<td>Ingestion</td>
<td>Rat</td>
<td>LD50 &gt; 5,110 mg/kg</td>
</tr>
</tbody>
</table>

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda Lime Borosilicate Glass</td>
<td>Professional judgement</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
</tbody>
</table>

**Serious Eye Damage/Irritation**

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda Lime Borosilicate Glass</td>
<td>Professional judgement</td>
<td>No significant irritation</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
<td>Rabbit</td>
<td>No significant irritation</td>
</tr>
</tbody>
</table>

**Skin Sensitization**

<table>
<thead>
<tr>
<th>Name</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
<td>Human and</td>
<td>Not sensitizing</td>
</tr>
</tbody>
</table>
Respiratory Sensitization
For the component/components, either no data are currently available or the data are not sufficient for classification.

<table>
<thead>
<tr>
<th>Germ Cell Mutagenicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Soda Lime Borosilicate Glass</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
</tr>
</tbody>
</table>

Carcinogenicity

<table>
<thead>
<tr>
<th>Name</th>
<th>Route</th>
<th>Species</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Soda Lime Borosilicate Glass</td>
<td>Inhalation</td>
<td>Multiple animal species</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
<td>Not Specified</td>
<td>Mouse</td>
<td>Some positive data exist, but the data are not sufficient for classification</td>
</tr>
</tbody>
</table>

Reproductive Toxicity

<table>
<thead>
<tr>
<th>Reproductive and/or Developmental Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
</tr>
</tbody>
</table>

Target Organ(s)

<table>
<thead>
<tr>
<th>Specific Target Organ Toxicity - single exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>For the component/components, either no data are currently available or the data are not sufficient for classification.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific Target Organ Toxicity - repeated exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Soda Lime Borosilicate Glass</td>
</tr>
<tr>
<td>Synthetic Amorphous Crystalline-Free Silica</td>
</tr>
</tbody>
</table>

Aspiration Hazard
For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

Ecotoxicological information
Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.
Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

**SECTION 13: Disposal considerations**

13.1. Disposal methods
Dispose of contents/container in accordance with the local/regional/national/international regulations.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility.

EPA Hazardous Waste Number (RCRA): Not regulated

**SECTION 14: Transport Information**

Not regulated per U.S. DOT, IATA or IMO.

These transportation classifications are provided as a customer service. As the shipper YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M transportation classifications are based on product formulation, packaging, 3M policies and 3M understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling, or marking requirements. The original 3M package is certified for U.S. ground shipment only. If you are shipping by air or ocean, the package may not meet applicable regulatory requirements.

**SECTION 15: Regulatory information**

15.1. US Federal Regulations
Contact 3M for more information.

311/312 Hazard Categories:
Fire Hazard - No    Pressure Hazard - No    Reactivity Hazard - No    Immediate Hazard - No    Delayed Hazard - No

15.2. State Regulations
Contact 3M for more information.

15.3. Chemical Inventories
The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

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

Contact 3M for more information.

15.4. International Regulations
Contact 3M for more information.

*This SDS 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  Instability: 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  Physical Hazard: 0  Personal Protection: X - See PPE section.

Hazardous Material Identification System (HMIS® IV) 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® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group: 10-4852-9  Version Number: 122.15
Issue Date: 03/22/17  Supersedes Date: 03/03/17

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