



## Safety Data Sheet

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Glass Bubbles, Types A and D

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Lightweight Filler

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Advanced Materials Division
<b>ADDRESS:</b>	3M Center, St. Paul, MN 55144-1000, USA
<b>Telephone:</b>	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

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### 2.2. Label elements

##### Signal word

Not applicable.

##### Symbols

Not applicable

##### Pictograms

Not applicable

### SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Chromium, Aqua Chloro Hydroxy Methacrylate Complexes	111031-82-4	< 1

Sulfur Dioxide (released upon breakage of glass bubbles)	7446-09-5	<= 0.35
Soda Lime Borosilicate Glass ((non-fibrous)	65997-17-3	> 99

## 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

No critical symptoms or effects. 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. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

### 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 in accordance with applicable local/regional/national/international regulations.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. 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.

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Chromium(3+), insoluble inorganic compounds	111031-82-4	ACGIH	TWA(as Cr(III), inhalable fraction):0.003 mg/m3	A4: Not class. as human carcin
Chromium(3+), soluble salts	111031-82-4	ACGIH	TWA(as Cr(III), inhalable fraction):0.003 mg/m3	A4: Not class. as human carcin, Dermal/Respiratory Sensitizer
DUST, INERT OR NUISANCE	65997-17-3	OSHA	TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m3);TWA(respirable fraction):15 millions of particles/cu. ft.(5 mg/m3)	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	65997-17-3	ACGIH	TWA(inhalable particulates):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	65997-17-3	ACGIH	TWA(respirable particles):3 mg/m3	
Sulfur Dioxide (released upon breakage of glass bubbles)	7446-09-5	ACGIH	STEL:0.25 ppm	A4: Not class. as human carcin
Sulfur Dioxide (released upon breakage of glass bubbles)	7446-09-5	OSHA	TWA:13 mg/m3(5 ppm)	

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

Physical state	Solid
Specific Physical Form:	Low Density Fine Powder (< 200 microns)
Color	White
Odor	Odorless
Odor threshold	<i>Not Applicable</i>
pH	<i>Not Applicable</i>
Melting point/Freezing point	<i>No Data Available</i>
Boiling point/Initial boiling point/Boiling range	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Evaporation rate	<i>Not Applicable</i>
Flammability	Not Applicable
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Relative Vapor Density	<i>Not Applicable</i>
Density	0.14 - 0.34 g/cm3
Relative Density	0.14 - 0.34 [Ref Std: WATER=1]
Water solubility	Negligible
Solubility- non-water	<i>Not Applicable</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>Not Applicable</i>
Kinematic Viscosity	<i>Not Applicable</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	< 0.5 % weight
VOC Less H2O & Exempt Solvents	<i>Not Applicable</i>
Molecular weight	<i>No Data Available</i>
Softening point	>=600 °C

Particle Characteristics	Not Applicable
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## 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

#### Substance

Oxides of Sulfur

#### Condition

If Breakage Occurs

## 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.

#### **Carcinogenicity:**

<u>Ingredient</u>	<u>CAS No.</u>	<u>Class Description</u>	<u>Regulation</u>
Isopropanol manufacture (strong-acid	7446-09-5	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

process)			
Special-purpose fibres such as E-glass and '475' glass fibres	65997-17-3	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

### 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

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Soda Lime Borosilicate Glass ((non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
Soda Lime Borosilicate Glass ((non-fibrous)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Sulfur Dioxide (released upon breakage of glass bubbles)	Inhalation-Gas (4 hours)	Rat	LC50 1,000 ppm

ATE = acute toxicity estimate

### Skin Corrosion/Irritation

Name	Species	Value
Soda Lime Borosilicate Glass ((non-fibrous)	Professional judgement	No significant irritation
Sulfur Dioxide (released upon breakage of glass bubbles)	official classification	Corrosive

### Serious Eye Damage/Irritation

Name	Species	Value
Soda Lime Borosilicate Glass ((non-fibrous)	Professional judgement	No significant irritation
Sulfur Dioxide (released upon breakage of glass bubbles)	Human and animal	Corrosive

### Skin Sensitization

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

### Respiratory Sensitization

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

### Germ Cell Mutagenicity

Name	Route	Value
Sulfur Dioxide (released upon breakage of glass bubbles)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Sulfur Dioxide (released upon breakage of glass bubbles)	In vivo	Some positive data exist, but the data are not sufficient for classification

### Carcinogenicity

Name	Route	Species	Value
Sulfur Dioxide (released upon breakage of glass bubbles)	Inhalation	Human and animal	Some positive data exist, but the data are not sufficient for classification

**Reproductive Toxicity****Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
Sulfur Dioxide (released upon breakage of glass bubbles)	Inhalation	Not classified for female reproduction	Mouse	NOAEL 30 ppm	2 generation
Sulfur Dioxide (released upon breakage of glass bubbles)	Inhalation	Not classified for male reproduction	Mouse	NOAEL 30 ppm	2 generation
Sulfur Dioxide (released upon breakage of glass bubbles)	Inhalation	Not classified for development	Human	NOAEL Not available	environmental exposure

**Target Organ(s)****Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Sulfur Dioxide (released upon breakage of glass bubbles)	Inhalation	respiratory system	Causes damage to organs	Human	NOAEL 0.25 ppm	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Sulfur Dioxide (released upon breakage of glass bubbles)	Inhalation	respiratory system	Not classified	Rat	LOAEL 10 ppm	21 weeks

**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.

Dispose of waste product in a permitted industrial waste facility. Empty and clean product containers may be disposed as non-hazardous waste. Consult your specific regulations and service providers to determine available options and requirements.

**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.

#### EPCRA 311/312 Hazard Classifications:

##### Physical Hazards

Not Applicable.

##### Health Hazards

Not Applicable.

### 15.2. State Regulations

Contact 3M for more information.

### 15.3. Chemical Inventories

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

This product complies with the New Zealand Hazardous Substances and New Organisms Act (1996).

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).

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