Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

SECTION 1: Identification

1.1. Product identifier
3M™ Glass Bubbles S32HS

Product Identification Numbers
WF-6009-1510-3 WF-6009-2665-4

7100221353 7010726218 7100419028

1.2. Recommended use and restrictions on use

Recommended use
Lightweight filler.

For Industrial or Professional use only.

1.3. Supplier's details
Address: 3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone: 136 136
E Mail: productinfo.au@mmm.com
Website: www.3m.com.au

1.4. Emergency telephone number
EMERGENCY: 1800 097 146 (Australia only)

SECTION 2: Hazard identification

This product is NOT classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011, in accordance with applicable State and Territory legislation.

Refer to Section 14 of this Safety Data Sheets for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture
Not applicable.

2.2. Label elements

Signal word
Not applicable.

Symbols
Not applicable.

Pictograms
Not applicable

2.3. Other assigned/identified product hazards
None known.

2.4. Other hazards which do not result in classification
May be harmful if swallowed.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	<= 3
Sulfur Dioxide (released upon breakage of glass bubbles)	7446-09-5	< 1
Soda Lime Borosilicate Glass (non-fibrous)	65997-17-3	>= 97

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. 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/vapours/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	CAS Nbr	Agency	Limit type	Additional comments
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	7446-09-5	Australia OELs	TWA(8 hours):5.2 mg/m3(2	

breakage of glass bubbles)			ppm);STEL(15 minutes):13 mg/m3(5 ppm)	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	7631-86-9	ACGIH	TWA(inhalable particulates):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	7631-86-9	ACGIH	TWA(respirable particles):3 mg/m3	
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Australia OELs	TWA(respirable fraction)(8 hours):2 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
Australia OELs : Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
Sen: Sensitiser
Sk: Absorption through the skin may be a significant source of exposure.

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/vapours/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.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance specifications of AS/NZS 1337.

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.
Select and use respirators according to AS/NZS 1715. Respirators should comply with AS/NZS 1716 performance specifications. For information about respirators, call 3M on 1800 024 464.

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 (< 100 microns)

Colour	White
Odour	odour less
Odour threshold	*Not applicable.*
pH	*No data available.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	*Not applicable.*
Flash point	*Not applicable.*
Evaporation rate	*Not applicable.*
Flammability	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Relative Vapor Density	*Not applicable.*
Density	0.1 - 0.6 g/cm3
Relative density	0.1 - 0.6 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*Not applicable.*
Partition coefficient: n-octanol/water	*Not applicable.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	*Not applicable.*
Kinematic Viscosity	*Not applicable.*
Volatile organic compounds (VOC)	*Not applicable.*
Percent volatile	< 0.5 % weight
VOC less H2O & exempt solvents	*Not applicable.*
Molecular weight	*No data available.*
Softening point	>=600 ºC

Particle Characteristics *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. Conditions to avoid
None known.

10.4. Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	Condition
Oxides of sulphur.	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 labelling, 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.

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	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >12.5 mg/l
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
Synthetic Amorphous Crystalline-Free Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic Amorphous Crystalline-Free Silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Synthetic Amorphous Crystalline-Free Silica	Ingestion	Rat	LD50 > 5,110 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
Synthetic Amorphous Crystalline-Free Silica	Rabbit	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
Synthetic Amorphous Crystalline-Free Silica	Rabbit	No significant irritation
Sulfur Dioxide (released upon breakage of glass bubbles)	Human and animal	Corrosive

Skin Sensitisation

Name	Species	Value
Synthetic Amorphous Crystalline-Free Silica	Human and animal	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Synthetic Amorphous Crystalline-Free Silica	In Vitro	Not mutagenic
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
Synthetic Amorphous Crystalline-Free Silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
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
Synthetic Amorphous Crystalline-Free Silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic Amorphous Crystalline-Free Silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic Amorphous Crystalline-Free Silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
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
Synthetic Amorphous Crystalline-Free Silica	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Synthetic Amorphous Crystalline-Free Silica	Inhalation	silicosis	Not classified	Human	NOAEL Not available	occupational exposure
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.

Exposure Levels
Refer Section **8.1 Control Parameters** of this Safety Data Sheet.

Interactive Effects
Not Determined

SECTION 12: Ecological 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. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Green algae	Experimental	72 hours	ErC50	>173.1 mg/l
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Rainbow trout	Experimental	96 hours	LC50	>1,000 mg/l
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Sediment organism	Experimental	96 hours	EC50	8,500 mg/kg (Dry Weight)
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Water flea	Experimental	48 hours	EL50	>1,000 mg/l
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Green algae	Experimental	72 hours	NOEC	173.1 mg/l
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Water flea	Experimental	21 days	NOEC	68 mg/l
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Redworm	Experimental	56 days	NOEC	100,000 mg/kg (Dry Weight)
Sulfur Dioxide (released upon breakage of glass bubbles)	7446-09-5	Fathead minnow	Experimental	96 hours	LC50	26.2 mg/l
Sulfur Dioxide (released upon breakage of glass bubbles)	7446-09-5	Water flea	Experimental	48 hours	EC50	1.94 mg/l
Soda Lime Borosilicate Glass (non-fibrous)	65997-17-3	N/A	Data not available or insufficient for classification	N/A	N/A	N/A

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Data not available-insufficient	N/A	N/A	N/A	N/A
Sulfur Dioxide (released upon breakage of glass bubbles)	7446-09-5	Estimated Photolysis		Photolytic half-life (in air)	6.4 hours (t 1/2)	
Soda Lime Borosilicate Glass (non-fibrous)	65997-17-3	Data not available-insufficient	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Synthetic Amorphous Crystalline-Free Silica	7631-86-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Sulfur Dioxide (released upon breakage of glass bubbles)	7446-09-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Soda Lime Borosilicate Glass (non-fibrous)	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available.

SECTION 13: Disposal considerations

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

Incinerate in a permitted waste incineration facility.

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - Road/Rail Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

Hazchem Code: Not applicable
IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG)- Marine Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.
Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Australian Inventory Status:
Not applicable, as this product/s aligns with the AICIS definition of an article.

Poison Schedule: This product is intended for Industrial or Professional Use only and therefore is not packaged and labelled in accordance with the requirements of the Standard for the Uniform Scheduling of Medicines and Poisons.

SECTION 16: Other information

Revision information:
Complete document review.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Safety Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.
Greenguard ® is a United States based program. The 'Low VOC' reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au