



Safety Data Sheet

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This product is defined as an article under REACH and does not require a Safety Data Sheet under Article 31 of Regulation (EC) No. 1907/2006. Since an SDS is not required, this document does not contain all of the information that is required for substance and mixture SDSs under REACH.

| | | | |
|------------------------|------------|-------------------------|------------|
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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3M™ Glass Bubbles HGS Series

Product Identification Numbers

| | | | | |
|----------------|----------------|----------------|----------------|----------------|
| 98-0212-2988-9 | 98-0213-2869-9 | FS-9100-4387-6 | FS-9100-4570-7 | FS-9100-5075-6 |
| FS-9100-5303-2 | FS-9100-5341-2 | UU-0090-3087-3 | | |
| 7100027913 | 7000033802 | 7000080191 | 7000033815 | 7000033831 |
| 7100053957 | 7000080339 | 7100139096 | | |

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Downhole Oil and Gas Applications, Industrial use.

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

This material is exempt from hazard classification according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

2.2. Label elements**CLP REGULATION (EC) No 1272/2008**

Not applicable

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients**3.1. Substances**

Not applicable

3.2. Mixtures

| Ingredient | Identifier(s) | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|-------------------------|--|----------|---|
| Glass, oxide, chemicals | (CAS-No.) 65997-17-3 (EC-No.) 266-046-0 | 97 - 100 | Substance with a national occupational exposure limit |
| Silicon dioxide | (CAS-No.) 7631-86-9 (EC-No.) 231-545-4 | <= 3 | Substance with a national occupational exposure limit |

Please see section 16 for the full text of any H statements referred to in this section

Although CASRN 65997-17-3 may be regulated as a member of Index Number 650-016-00-2 (Mineral wool, with the exception of those specified elsewhere in this Annex), the substance in this product that is described by this CASRN is not fibrous and is therefore not associated with a carcinogen classification.

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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. Extinguishing media

Material will not burn. Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

5.3. Advice 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 vapours, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

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.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

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.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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 |
|-------------------------|----------------|-------------------------|--|----------------------------|
| Glass, oxide, chemicals | 65997-17-3 | UK HSC | TWA(as fiber):5 mg/m3(1 fibers/ml) | |
| Glass, oxide, chemicals | 65997-17-3 | Manufacturer determined | TWA(as non-fibrous, respirable)(8 hours):3 mg/m3;TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m3 | |
| Silicon dioxide | 7631-86-9 | UK HSC | TWA(as respirable dust):2.4 mg/m3;TWA(as inhalable dust):6 mg/m3 | |

UK HSC : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Recommended monitoring procedures:Information on recommended monitoring procedures can be obtained from UK HSC

8.2. Exposure controls

8.2.1. Engineering controls

Provide appropriate local exhaust ventilation at transfer points. 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.

Skin/hand protection

No chemical protective gloves are required.

Respiratory protection

Wear respiratory protection if ventilation is inadequate to prevent overexposure.

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:

Fine Powder < 100 microns

| | |
|--|--|
| Colour | White |
| Odor | Odourless |
| Odour threshold | <i>Not applicable.</i> |
| Melting point/freezing point | <i>No data available.</i> |
| Boiling point/boiling range | <i>Not applicable.</i> |
| Flammability (solid, gas) | Not classified |
| Flammable Limits(LEL) | <i>Not applicable.</i> |
| Flammable Limits(UEL) | <i>Not applicable.</i> |
| Flash point | <i>Not applicable.</i> |
| Autoignition temperature | <i>Not applicable.</i> |
| Decomposition temperature | <i>Not applicable.</i> |
| pH | <i>substance/mixture is non-soluble (in water)</i> |
| Kinematic Viscosity | <i>Not applicable.</i> |
| Water solubility | Negligible |
| Solubility- non-water | <i>Not applicable.</i> |
| Partition coefficient: n-octanol/water | <i>No data available.</i> |
| Vapour pressure | <i>Not applicable.</i> |
| Density | 0.1 - 0.6 g/cm ³ |
| Relative density | 0.1 - 0.6 [Ref Std: WATER=1] |
| Relative Vapor Density | <i>Not applicable.</i> |

9.2. Other information

9.2.2 Other safety characteristics

| | |
|-------------------------------|---------------------------|
| EU Volatile Organic Compounds | <i>No data available.</i> |
| Evaporation rate | <i>Not applicable.</i> |
| Molecular weight | <i>No data available.</i> |
| Percent volatile | < 0.5 % weight |
| Softening point | >=600 °C |

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 polymerisation will not occur.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

| | |
|--------------------|--------------------|
| <u>Substance</u> | <u>Condition</u> |
| Oxides of sulphur. | If Breakage Occurs |

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient

classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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 diarrhoea.

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 ATE2,000 - 5,000 mg/kg |
| Glass, oxide, chemicals | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Glass, oxide, chemicals | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Silicon dioxide | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Silicon dioxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| Silicon dioxide | Ingestion | Rat | LD50 > 5,110 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|-------------------------|------------------------|---------------------------|
| Glass, oxide, chemicals | Professional judgement | No significant irritation |
| Silicon dioxide | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-------------------------|------------------------|---------------------------|
| Glass, oxide, chemicals | Professional judgement | No significant irritation |
| Silicon dioxide | Rabbit | No significant irritation |

Skin Sensitisation

| Name | Species | Value |
|-----------------|------------------|----------------|
| Silicon dioxide | Human and animal | Not classified |

Respiratory Sensitisation

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

Germ Cell Mutagenicity

| Name | Route | Value |
|-------------------------|----------|--|
| Glass, oxide, chemicals | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Silicon dioxide | In Vitro | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|-------------------------|----------------|-------------------------|--|
| Glass, oxide, chemicals | Inhalation | Multiple animal species | Some positive data exist, but the data are not sufficient for classification |
| Silicon dioxide | Not specified. | Mouse | 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 |
|-----------------|-----------|--|---------|-----------------------|----------------------|
| Silicon dioxide | Ingestion | Not classified for female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| Silicon dioxide | Ingestion | Not classified for male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| Silicon dioxide | Ingestion | Not classified for development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |

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

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

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test result | Exposure Duration |
|-------------------------|------------|--------------------------------|----------------|---------|---------------------|-----------------------|
| Glass, oxide, chemicals | Inhalation | respiratory system | Not classified | Human | NOAEL not available | occupational exposure |
| Silicon dioxide | Inhalation | respiratory system silicosis | Not classified | Human | NOAEL Not available | occupational exposure |

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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.

11.2. Information on other hazards

Not applicable.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

| Material | CAS # | Organism | Type | Exposure | Test endpoint | Test result |
|-------------------------|------------|-------------|---|----------|---------------|--------------|
| Glass, oxide, chemicals | 65997-17-3 | Green algae | Experimental | 72 hours | EC50 | >1,000 mg/l |
| Glass, oxide, chemicals | 65997-17-3 | Water flea | Experimental | 72 hours | EC50 | >1,000 mg/l |
| Glass, oxide, chemicals | 65997-17-3 | Zebra Fish | Experimental | 96 hours | LC50 | >1,000 mg/l |
| Glass, oxide, chemicals | 65997-17-3 | Green algae | Experimental | 72 hours | NOEC | >=1,000 mg/l |
| Silicon dioxide | 7631-86-9 | | Data not available or insufficient for classification | | | N/A |

12.2. Persistence and degradability

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|-------------------------|------------|------------------------------------|----------|------------|-------------|----------|
| Glass, oxide, chemicals | 65997-17-3 | Data not available or insufficient | | | N/A | |
| Silicon dioxide | 7631-86-9 | Data not available or insufficient | | | N/A | |

12.3 : Bioaccumulative potential

| Material | Cas No. | Test type | Duration | Study Type | Test result | Protocol |
|-------------------------|------------|---|----------|------------|-------------|----------|
| Glass, oxide, chemicals | 65997-17-3 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Silicon dioxide | 7631-86-9 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |

12.4. Mobility in soil

No test data available.

12.5. Results of the PBT and vPvB assessment

Not applicable

12.6. Endocrine disrupting properties

Not applicable

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

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

Contact your sales representative for information on reclaiming this product. Dispose of waste product in a permitted industrial waste facility.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

101112 Waste glass other than those mentioned in 10 11 11

SECTION 14: Transportation information

Not hazardous for transportation.

| | Ground Transport (ADR) | Air Transport (IATA) | Marine Transport (IMDG) |
|--|--|--|--|
| 14.1 UN number | No data available. | No data available. | No data available. |
| 14.2 UN proper shipping name | No data available. | No data available. | No data available. |
| 14.3 Transport hazard class(es) | No data available. | No data available. | No data available. |
| 14.4 Packing group | No data available. | No data available. | No data available. |
| 14.5 Environmental hazards | No data available. | No data available. | No data available. |
| 14.6 Special precautions for user | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. | Please refer to the other sections of the SDS for further information. |
| 14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code | No data available. | No data available. | No data available. |
| Control Temperature | No data available. | No data available. | No data available. |
| Emergency Temperature | No data available. | No data available. | No data available. |

| | | | |
|--------------------------------|--------------------|--------------------|--------------------|
| ADR Tunnel Code | No data available. | Not applicable. | No data available. |
| ADR Classification Code | No data available. | No data available. | No data available. |
| ADR Transport Category | No data available. | No data available. | No data available. |
| ADR Multiplier | No data available. | No data available. | No data available. |
| IMDG Segregation Code | No data available. | No data available. | No data available. |

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient

Silicon dioxide

CAS Nbr

7631-86-9

Classification

Gr. 3: Not classifiable

Regulation

International Agency
for Research on Cancer

Global inventory status

Contact 3M for more information.

DIRECTIVE 2012/18/EU

Seveso hazard categories, Annex 1, Part 1

None

Seveso named dangerous substances, Annex 1, Part 2

None

15.2. Chemical Safety Assessment

Not applicable.

SECTION 16: Other information

Revision information:

EU Section 09: pH information information was added.

Section 1: Product identification numbers information was modified.

Section 01: SAP Material Numbers information was modified.

Section 03: Composition table % Column heading information was added.

Section 3: Composition/ Information of ingredients table information was modified.

Section 03: Substance not applicable information was added.

Section 04: Information on toxicological effects information was modified.

Section 8: Occupational exposure limit table information was modified.
Section 8: Personal Protection - Respiratory Information information was modified.
Section 9: Evaporation Rate information information was deleted.
Section 9: Explosive properties information information was deleted.
Section 09: Kinematic Viscosity information information was added.
Section 9: Melting point information information was modified.
Section 9: Oxidising properties information information was deleted.
Section 9: pH information information was deleted.
Section 9: Property description for optional properties information was modified.
Section 9: Vapour density value information was added.
Section 9: Vapour density value information was deleted.
Section 9: Viscosity information information was deleted.
Section 11: No endocrine disruptor information available warning information was added.
Section 12: 12.6. Endocrine Disrupting Properties information was added.
Section 12: 12.7. Other adverse effects information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Contact manufacturer for more detail. information was deleted.
Section 12: No Data text for mobility in soil information was added.
Section 12: No endocrine disruptor information available warning information was added.
Section 14 Classification Code – Main Heading information was added.
Section 14 Classification Code – Regulation Data information was added.
Section 14 Control Temperature – Main Heading information was added.
Section 14 Control Temperature – Regulation Data information was added.
Section 14 Disclaimer Information information was added.
Section 14 Emergency Temperature – Main Heading information was added.
Section 14 Emergency Temperature – Regulation Data information was added.
Section 14 Hazard Class + Sub Risk – Main Heading information was added.
Section 14 Hazard Class + Sub Risk – Regulation Data information was added.
Section 14 Hazardous/Not Hazardous for Transportation information was added.
Section 14 Multiplier – Main Heading information was added.
Section 14 Multiplier – Regulation Data information was added.
Section 14 Other Dangerous Goods – Main Heading information was added.
Section 14 Other Dangerous Goods – Regulation Data information was added.
Section 14 Packing Group – Main Heading information was added.
Section 14 Packing Group – Regulation Data information was added.
Section 14 Proper Shipping Name information was added.
Section 14 Regulations – Main Headings information was added.
Section 14 Segregation – Regulation Data information was added.
Section 14 Segregation Code – Main Heading information was added.
Section 14 Special Precautions – Main Heading information was added.
Section 14 Special Precautions – Regulation Data information was added.
Section 14 Transport Category – Main Heading information was added.
Section 14 Transport Category – Regulation Data information was added.
Section 14 Transport in bulk – Regulation Data information was added.
Section 14 Transport in bulk according to Annex II of Marpol and the IBC Code – Main Heading information was added.
Section 14 Tunnel Code – Main Heading information was added.
Section 14 Tunnel Code – Regulation Data information was added.
Section 14 UN Number Column data information was added.
Section 14 UN Number information was added.
Section 15: Regulations - Inventories information was added.

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 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. In addition, this SDS is being

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