



**Proper Shipping Name** Not applicable

**Hazard Class/Division** Not applicable

**Subsidiary Risk** Not applicable

**Packing Group:** Not applicable

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## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Ketac™ Universal Liquid (61111)

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

##### Recommended use

Dental Product, Glass Ionomer Filling Material

##### Restrictions on use

For use by dental professionals only.

#### 1.3. Supplier's details

**Address:** 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100  
**Telephone:** 080-45543000, contact Product EHS team  
**E Mail:** productehs.in@mmm.com  
**Website:** <http://solutions.3mindia.co.in>

#### 1.4. Emergency telephone number

080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

### SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

#### 2.1. Classification of the substance or mixture

Not classified as hazardous according to UN GHS criteria.

#### 2.2. Label elements

**Signal Word**

**Symbols**

**Pictograms**

Not applicable.

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Water	7732-18-5	40 - 60
Acrylic acid maleic acid copolymer	29132-58-9	30 - 50
Tartaric acid	87-69-4	1 - 10

## 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

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

### 5.2. Special hazards arising from the substance or mixture

None inherent in this product.

### Hazardous Decomposition or By-Products

#### Substance

Irritant vapours or gases.

#### Condition

During combustion.

### 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

## 3M™ Ketac™ Universal Liquid (61111)

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. Observe precautions from other sections.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

Contain spill. Collect as much of the spilled material as possible. Place in a metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. Clean up residue with water. Cover, but do not seal for 48 hours. 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

Avoid prolonged or repeated skin contact. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Keep away from reactive metals (eg. Aluminum, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard.

### 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

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

### 8.2. Exposure controls

#### 8.2.1. Engineering controls

Use in a well-ventilated area.

#### 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

See Section 7.1 for additional information on skin protection.

##### Respiratory protection

None required.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.

**3M™ Ketac™ Universal Liquid (61111)**

<b>Color</b>	Colorless
<b>Odor</b>	Slight Acidic
<b>Odour threshold</b>	<i>No data available.</i>
<b>pH</b>	< 2
<b>Melting point/Freezing point: NA</b>	<i>Not applicable.</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	100 °C
<b>Flash point</b>	No flash point
<b>Evaporation rate</b>	<i>No data available.</i>
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Flammable Limits(LEL)</b>	<i>Not applicable.</i>
<b>Flammable Limits(UEL)</b>	<i>Not applicable.</i>
<b>Vapour pressure</b>	<i>No data available.</i>
<b>Vapor Density and/or Relative Vapor Density</b>	<i>No data available.</i>
<b>Density</b>	<i>No data available.</i>
<b>Relative density</b>	>=1 [Ref Std: WATER=1]
<b>Water solubility</b>	Complete
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>Viscosity/Kinematic Viscosity</b>	<=10,000 mPa-s
<b>Volatile organic compounds (VOC)</b>	<i>No data available.</i>
<b>Percent volatile</b>	<i>No data available.</i>
<b>VOC less H2O &amp; exempt solvents</b>	<i>No data available.</i>
<b>Molecular weight</b>	<i>No data available.</i>

**Nanoparticles**

This material does not contain nanoparticles.

**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****Substance****Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

**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

Contact with the skin during product use is not expected to result in significant irritation.

#### Eye contact

Contact with the eyes during product use is not expected to result in significant irritation.

#### Ingestion

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 ATE >5,000 mg/kg
Acrylic acid maleic acid copolymer	Ingestion	Rat	LD50 > 2,000 mg/kg
Acrylic acid maleic acid copolymer	Dermal	similar health hazards	LD50 Not available
Tartaric acid	Dermal	Rat	LD50 > 5,000 mg/kg
Tartaric acid	Ingestion	Rat	LD50 4,360 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

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

#### Serious Eye Damage/Irritation

Name	Species	Value
Tartaric acid	In vitro data	Corrosive

#### Sensitization:

#### Skin Sensitisation

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

#### Respiratory Sensitisation

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

**Germ Cell Mutagenicity**

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

**Carcinogenicity**

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

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

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

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

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

**Specific Target Organ Toxicity - repeated exposure**

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

**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**

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 Nbr	Organism	Type	Exposure	Test endpoint	Test result
Acrylic acid maleic acid copolymer	29132-58-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
Acrylic acid maleic acid copolymer	29132-58-9	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Acrylic acid maleic acid copolymer	29132-58-9	Green algae	Experimental	96 hours	Effect Concentration 10%	32 mg/l
Acrylic acid	29132-58-9	Water flea	Experimental	21 days	NOEC	350 mg/l



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maleic acid copolymer						
Acrylic acid maleic acid copolymer	29132-58-9	Zebra Fish	Experimental	14 days	NOEC	40 mg/l
Tartaric acid	87-69-4	Green Algae	Experimental	72 hours	EC50	51.4 mg/l
Tartaric acid	87-69-4	Water flea	Experimental	48 hours	EC50	93.3 mg/l
Tartaric acid	87-69-4	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Tartaric acid	87-69-4	Green Algae	Experimental	72 hours	NOEC	3.1 mg/l

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acrylic acid maleic acid copolymer	29132-58-9	Experimental Biodegradation	28 days	BOD	< 14 % weight	Other methods
Tartaric acid	87-69-4	Experimental Biodegradation	28 days	BOD	85 % weight	Other methods

**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Acrylic acid maleic acid copolymer	29132-58-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Tartaric acid	87-69-4	Experimental Bioconcentration		Log Kow	-1.91	Other methods

**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.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility.

**SECTION 14: Transport Information**

Not hazardous for transportation.

**Air Transport (IATA) Regulations**

**UN No** Not applicable

**Proper Shipping Name** Not applicable

**Hazard Class/Division** Not applicable

**Subsidiary Risk** Not applicable

## 3M™ Ketac™ Universal Liquid (61111)

**Packing Group:** Not applicable

### **Marine Transport (IMDG)**

**UN No** Not applicable

**Proper Shipping Name** Not applicable

**Hazard Class/Division** Not applicable

**Subsidiary Risk** Not applicable

**Packing Group:** Not applicable

**Environmental Hazards:** Not applicable

## SECTION 15: Regulatory information

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

#### **Global inventory status**

Contact 3M for more information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

#### **Applicable Environmental, Health and Safety Regulations**

The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989

The Bio Medical Waste (Management & Handling) Rules, 1998

Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules  
None.

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:  
The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

## SECTION 16: Other information

### **NFPA Hazard Classification**

**Health:** 1    **Flammability:** 1    **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.

### **Revision information:**

Section 14: Packing group (IMO) information was added.

Company Telephone information was modified.

Section 1: Emergency telephone information was modified.

Section 1: Product name information was modified.

Section 2: Ingredient table information was modified.

Section 6: Accidental release clean-up information information was modified.

Section 6: Accidental release personal information information was modified.

Section 7: Precautions safe handling information information was modified.

Section 09: Color information was added.

Section 09: Nanoparticle information was added.

Section 09: Odor information was added.

Sections 3 and 9: Odour, colour, grade information information was deleted.

Section 09: Percent Volatile information was added.

Section 9: Property description for optional properties information was added.  
Section 9: Property description for optional properties information was deleted.  
Section 09: Vapor Density Value information was added.  
Section 9: Vapour density value information was deleted.  
Section 9: Viscosity information information was deleted.  
Section 09: Viscosity information was added.  
Section 09: VOC Less H2O & Exempt Solvents information was added.  
Section 09: Volatile Organic Compounds information was added.  
Section 11: Acute Toxicity table information was modified.  
Section 11: Serious Eye Damage/Irritation Table information was added.  
Section 11: Serious Eye Damage/Irritation text information was deleted.  
Section 12: Component ecotoxicity information information was modified.  
Prints No Data if Adverse effects information is not present information was added.  
Section 12: Persistence and Degradability information information was modified.  
Section 12: Biocumulative potential information information was modified.  
Section 13: 13.1. Waste disposal note information was modified.  
Section 13: Standard Phrase Category Waste GHS information was modified.  
Section 14: Environmental hazards information was added.  
Section 14: IMO Subsidiary Risk information was added.  
Section 14: IMO transport hazard classes information was added.  
Section 14: Proper Shipping Name (IMO) information was added.  
Section 14: UN Number (IMO) information was added.  
Section 15: Applicable Environmental, Health and Safety Regulations information was modified.  
Section 15: MSIHC Part I of Schedule I ingredients information was modified.  
Section 15: Regulations - Inventories information was modified.  
Section 16: UK disclaimer information was deleted.

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Ketac™ Universal Powder

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

##### Recommended use

Dental Product, Glass Ionomer Filling Material

##### Restrictions on use

For use only by dental professionals.

#### 1.3. Supplier's details

**Address:** 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100  
**Telephone:** 080-45543000, contact Product EHS team  
**E Mail:** productehs.in@mmm.com  
**Website:** <http://solutions.3mindia.co.in>

#### 1.4. Emergency telephone number

080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

### SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

#### 2.1. Classification of the substance or mixture

Acute Toxicity (oral): Category 5.

#### 2.2. Label elements

**Signal Word**

WARNING!

**Symbols**

**Pictograms**

**HAZARD STATEMENTS:**

H303 May be harmful if swallowed.

**2.3. Other hazards**

None known.

**SECTION 3: Composition/information on ingredients**

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	90 - 100

**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**

Material will not burn.

**5.2. Special hazards arising from the substance or mixture**

None inherent in this product.

**Hazardous Decomposition or By-Products**

Substance

None known.

Condition

During combustion.

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

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Avoid prolonged or repeated skin contact. 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

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

### 8.2. Exposure controls

#### 8.2.1. Engineering controls

Use in a well-ventilated area.

#### 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

See Section 7.1 for additional information on skin protection.

##### Respiratory protection

None required.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Powder

<b>Color</b>	Tooth
<b>Odor</b>	Odourless
<b>Odour threshold</b>	<i>No data available.</i>
<b>pH</b>	<i>Not applicable.</i>
<b>Melting point/Freezing point: NA</b>	<i>No data available.</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	<i>Not applicable.</i>
<b>Flash point</b>	No flash point
<b>Evaporation rate</b>	<i>Not applicable.</i>
<b>Flammability (solid, gas)</b>	Not classified
<b>Flammable Limits(LEL)</b>	<i>Not applicable.</i>
<b>Flammable Limits(UEL)</b>	<i>Not applicable.</i>
<b>Vapour pressure</b>	<i>Not applicable.</i>
<b>Vapor Density and/or Relative Vapor Density</b>	<i>Not applicable.</i>
<b>Relative density</b>	$\geq 1$ [Ref Std: WATER=1]
<b>Water solubility</b>	Moderate
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>Viscosity/Kinematic Viscosity</b>	<i>Not applicable.</i>
<b>Volatile organic compounds (VOC)</b>	<i>Not applicable.</i>
<b>Percent volatile</b>	<i>Not applicable.</i>
<b>VOC less H2O &amp; exempt solvents</b>	<i>Not applicable.</i>
<b>Molecular weight</b>	<i>No data available.</i>

**Nanoparticles**

This material contains nanoparticles.

**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****Substance****Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

**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.

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
OXIDE GLASS CHEMICALS (non-fibrous)	Dermal		LD50 estimated to be > 5,000 mg/kg
OXIDE GLASS CHEMICALS (non-fibrous)	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
OXIDE GLASS CHEMICALS (non-fibrous)	Professional judgement	No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
OXIDE GLASS CHEMICALS (non-fibrous)	Professional judgement	No significant irritation

**Sensitization:**

**Skin Sensitisation**

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



**Respiratory Sensitisation**

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

**Germ Cell Mutagenicity**

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

**Carcinogenicity**

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

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

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

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

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

**Specific Target Organ Toxicity - repeated exposure**

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

**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**

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 Nbr	Organism	Type	Exposure	Test endpoint	Test result
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
OXIDE GLASS CHEMICALS	65997-17-3	Water flea	Experimental	72 hours	EC50	>1,000 mg/l

**3M™ Ketac™ Universal Powder**

(non-fibrous)						
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Zebra Fish	Experimental	96 hours	LC50	>1,000 mg/l
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Green algae	Experimental	72 hours	NOEC	>=1,000 mg/l

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
OXIDE GLASS CHEMICALS (non-fibrous)	65997-17-3	Data not available- insufficient			N/A	

**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
OXIDE GLASS CHEMICALS (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.

Dispose of waste product in a permitted industrial waste facility.

**SECTION 14: Transport Information**

Not hazardous for transportation.

**Air Transport (IATA)Regulations**

**UN No** Not applicable

**Proper Shipping Name** Not applicable

**Hazard Class/Division** Not applicable

**Subsidiary Risk** Not applicable

**Packing Group:** Not applicable

**Marine Transport (IMDG)**

**UN No** Not applicable

**Proper Shipping Name** Not applicable

**Hazard Class/Division** Not applicable

**Subsidiary Risk** Not applicable

**Packing Group:** Not applicable

**Environmental Hazards:** Not applicable

## SECTION 15: Regulatory information

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

#### Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

#### Applicable Environmental, Health and Safety Regulations

The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989

The Bio Medical Waste (Management & Handling) Rules, 1998

Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules

None.

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:

The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

## 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.

#### Revision information:

Section 14: Packing group (IMO) information was added.

Company Telephone information was modified.

Section 1: Emergency telephone information was modified.

Section 2: Ingredient table information was modified.

Section 6: Accidental release clean-up information information was modified.

Section 6: Accidental release personal information information was modified.

Section 8: Occupational exposure limit table information was deleted.

Section 8: Occupational exposure limit table information was modified.

OEL Reg Agency Desc information was deleted.

Section 8: STEL key information was deleted.

Section 8: TWA key information was deleted.

Section 09: Color information was added.

Section 09: Nanoparticle information was added.

Section 09: Odor information was added.

Sections 3 and 9: Odour, colour, grade information information was deleted.  
Section 09: Percent Volatile information was added.  
Section 9: Property description for optional properties information was added.  
Section 9: Property description for optional properties information was deleted.  
Section 09: Vapor Density Value information was added.  
Section 9: Vapour density value information was deleted.  
Section 9: Viscosity information information was deleted.  
Section 09: Viscosity information was added.  
Section 09: VOC Less H2O & Exempt Solvents information was added.  
Section 09: Volatile Organic Compounds information was added.  
Section 11: Acute Toxicity table information was modified.  
Section 11: Carcinogenicity Table information was deleted.  
Section 11: Carcinogenicity text information was added.  
Section 11: Germ Cell Mutagenicity Table information was deleted.  
Section 11: Germ Cell Mutagenicity text information was added.  
Section 11: Serious Eye Damage/Irritation Table information was modified.  
Section 11: Skin Corrosion/Irritation Table information was modified.  
Section 11: Specific Target Organ Toxicity - repeated exposure text information was added.  
Section 11: Target Organs - Repeated Table information was deleted.  
Section 12: Component ecotoxicity information information was modified.  
Section 12: Persistence and Degradability information information was modified.  
Section 12: Biocumulative potential information information was modified.  
Section 13: 13.1. Waste disposal note information was modified.  
Section 14: Environmental hazards information was added.  
Section 14: IMO Subsidiary Risk information was added.  
Section 14: IMO transport hazard classes information was added.  
Section 14: Proper Shipping Name (IMO) information was added.  
Section 14: UN Number (IMO) information was added.  
Section 15: Applicable Environmental, Health and Safety Regulations information was modified.  
Section 15: MSIHC Part I of Schedule I ingredients information was modified.  
Section 16: UK disclaimer information was deleted.

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.

**3M India SDSs are available at <http://solutions.3mindia.co.in>**