# Safety Data Sheet



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|---|---|---|---|
| **Document Group:** | 21-6252-7 | **Version Number:** | 2.00 |
| **Issue Date:** | 01/28/16 | **Supercedes Date:** | 05/09/14 |

**Product identifier**
Transbond PLUS Color Change Adhesive Kit with Transbond Plus Self Etching Primer (712-107, 712-108)

**ID Number(s):**

70-0066-4261-8, 70-0066-4262-6

**Recommended use**
Orthodontic use, Orthodontic use

**Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Oral Care Solutions Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

**This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:**

11-8348-2, 16-1815-6

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# Safety Data Sheet



| | | | |
|---|---|---|---|
| **Document Group:** | 11-8348-2 | **Version Number:** | 13.00 |
| **Issue Date:** | 06/25/18 | **Supercedes Date:** | 12/29/17 |

## SECTION 1: Identification

**1.1. Product identifier**
3M Unitek Transbond Plus Self Etching Primer (712-090, 712-091)

**Product Identification Numbers**
70-2021-0623-6, 70-2021-0835-6, 78-8098-6204-4, 78-8098-6207-7

**1.2. Recommended use and restrictions on use**

**Recommended use**
Orthodontic use, Orthodontic use

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Oral Care Solutions Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

**2.1. Hazard classification**
Serious Eye Damage/Irritation: Category 2A.
Skin Sensitizer: Category 1.

**2.2. Label elements**
**Signal word**
Warning

**Symbols**
Exclamation mark |

**Pictograms**

**Hazard Statements**
Causes serious eye irritation.
May cause an allergic skin reaction.

**Precautionary Statements**

**Prevention:**
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear eye/face protection.
Wear protective gloves.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

**Response:**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

55% of the mixture consists of ingredients of unknown acute dermal toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| METHACRYLATED PYROPHOSPHATES | None | 10 - 25 Trade Secret * |
| ETHYLENE DIMETHACRYLATE | 97-90-5 | 0 - 2 Trade Secret * |
| Phosphoric Acid | 7664-38-2 | 0 - 2 Trade Secret * |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | 868-77-9 | < 1 Trade Secret * |
| 2-PROPENOIC ACID, 2-METHYL-,PHOSPHINICOBIS (OXY-2,1-ETHANDIYL)ESTER | 32435-46-4 | 25 - 40 Trade Secret * |
| WATER | 7732-18-5 | 15 - 25 Trade Secret * |
| Mono HEMA Phosphate | 24599-21-1 | 10 - 25 Trade Secret * |
| TRIS[2-(METHACRYLOYLOXY)ETHYL]PHOSPHATE | 15458-75-0 | 1 - 10 Trade Secret * |
| DL-CAMPHORQUINONE | 10373-78-1 | < 3 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## 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:**
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. 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. 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.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During Combustion |
| Carbon dioxide | 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. 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**
Contain spill. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with water. 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 breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Do not get in eyes. A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove.

**7.2. Conditions for safe storage including any incompatibilities**
Store away from heat.

## 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 |
|---|---|---|---|---|
| Phosphoric Acid | 7664-38-2 | ACGIH | TWA:1 mg/m3;STEL:3 mg/m3 | |
| Phosphoric Acid | 7664-38-2 | OSHA | TWA:1 mg/m3 | |

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 in a well-ventilated area. 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**
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**

| | |
|---|---|
| **General Physical Form:** | Liquid |
| **Odor, Color, Grade:** | Compartment 1: Slight yellow liquid, slight acrylate odor.<br>Compartment 2: Clear, odorless liquid. |
| **Odor threshold** | *No Data Available* |
| **pH** | *Not Applicable* |
| **Melting point** | Approximately 32 ºF |
| **Boiling Point** | Approximately 212 ºF |
| **Flash Point** | No flash point |
| **Evaporation rate** | <= 1 [*Ref Std:*BUOAC=1] |
| **Flammability (solid, gas)** | Not Applicable |
| **Flammable Limits(LEL)** | *No Data Available* |
| **Flammable Limits(UEL)** | *No Data Available* |
| **Vapor Pressure** | *No Data Available* |
| **Vapor Density** | *No Data Available* |
| **Density** | > 1 g/ml [@ 23 ºC] |
| **Specific Gravity** | Approximately 1 [*Ref Std:*WATER=1] |
| **Solubility in Water** | Complete [@ 23 ºC] |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *Not Applicable* |
| **Decomposition temperature** | *No Data Available* |
| **Viscosity** | *No Data Available* |
| **Molecular weight** | *No Data Available* |
| **Volatile Organic Compounds** | *No Data Available* |
| **Percent volatile** | *No Data Available* |
| **VOC Less H2O & Exempt Solvents** | *No Data Available* |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

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

**10.4. Conditions to avoid**
Heat

**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 labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.**
**The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.**

**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. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

**Eye Contact:**
Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

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

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

**Acute Toxicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Overall product | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | Rat | LD50 > 2,000 mg/kg |
| 2-PROPENOIC ACID, 2-METHYL-,PHOSPHINICOBIS (OXY-2,1-ETHANDIYL)ESTER | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| 2-PROPENOIC ACID, 2-METHYL-,PHOSPHINICOBIS (OXY-2,1-ETHANDIYL)ESTER | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Mono HEMA Phosphate | Ingestion | similar compounds | LD50 300-2000 mg/kg |
| ETHYLENE DIMETHACRYLATE | Dermal | Professional judgement | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Phosphoric Acid | Dermal | Rabbit | LD50 2,740 mg/kg |
| ETHYLENE DIMETHACRYLATE | Ingestion | Rat | LD50 3,300 mg/kg |
| Phosphoric Acid | Ingestion | Rat | LD50 1,530 mg/kg |

| | | | |
|---|---|---|---|
| DL-CAMPHORQUINONE | Dermal | Professional judgement | LD50 estimated to be 2,000 - 5,000 mg/kg |
| DL-CAMPHORQUINONE | Ingestion | Rat | LD50 > 2,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Rat | LD50 5,564 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Overall product | | No significant irritation |
| ETHYLENE DIMETHACRYLATE | Professional judgement | Mild irritant |
| Phosphoric Acid | Rabbit | Corrosive |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Minimal irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| ETHYLENE DIMETHACRYLATE | Not available | Moderate irritant |
| Phosphoric Acid | official classification | Corrosive |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Rabbit | Moderate irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Overall product | | Sensitizing |
| ETHYLENE DIMETHACRYLATE | Guinea pig | Sensitizing |
| Phosphoric Acid | Human | Not classified |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Human and animal | Sensitizing |

**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 |
|---|---|---|
| Overall product | In Vitro | Not mutagenic |
| ETHYLENE DIMETHACRYLATE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Phosphoric Acid | In Vitro | Not mutagenic |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In vivo | Not mutagenic |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | In Vitro | Some positive data exist, but 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**

| Name | Route | Value | Species | Test Result | Exposure |
|---|---|---|---|---|---|

| | | | | | Duration |
|---|---|---|---|---|---|
| Phosphoric Acid | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Phosphoric Acid | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Phosphoric Acid | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | premating & during gestation |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 49 days |
| 2-HYDROXYETHYL METHACRYLATE (HEMA) | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | premating & during gestation |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| ETHYLENE DIMETHACRYLATE | Inhalation | respiratory irritation | May cause respiratory irritation | official classification | NOAEL Not available | |
| Phosphoric Acid | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | Human | NOAEL Not available | occupational exposure |

**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

## 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. As a disposal alternative, incinerate in a permitted waste incineration facility.

**EPA Hazardous Waste Number (RCRA):** Not regulated

## SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

## 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** |
|---|
| Respiratory or Skin Sensitization |
| Serious eye damage or eye irritation |

**15.2. State Regulations**
Contact 3M for more information.

**California Proposition 65**

| Ingredient | C.A.S. No. | Listing |
|---|---|---|
| Toluene | 108-88-3 | Developmental Toxin |

**15.3. Chemical Inventories**
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.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

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

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

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

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:** 2 **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.

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|---|---|---|---|
| **Document Group:** | 11-8348-2 | **Version Number:** | 13.00 |
| **Issue Date:** | 06/25/18 | **Supercedes Date:** | 12/29/17 |

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# Safety Data Sheet



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|---|---|---|---|
| **Document Group:** | 16-1815-6 | **Version Number:** | 8.01 |
| **Issue Date:** | 11/11/22 | **Supercedes Date:** | 04/14/20 |

## SECTION 1: Identification

**1.1. Product identifier**
3M™ Unitek™ Transbond™ Plus Color Change Adhesive (712-101, 712-102, 712-103, 712-104, 712-105, 712-106)

**Product Identification Numbers**
70-0066-4240-2, 70-0066-4241-0, 70-0066-4242-8, 70-0066-4243-6, 70-0066-4244-4, 70-0066-4245-1
7000024455, 7010375252, 7000024456, 7100266639, 7000001444, 7000001445

**1.2. Recommended use and restrictions on use**

**Recommended use**
Orthodontic use

**1.3. Supplier's details**

| | |
|---|---|
| **MANUFACTURER:** | 3M |
| **DIVISION:** | Oral Care Solutions Division |
| **ADDRESS:** | 3M Center, St. Paul, MN 55144-1000, USA |
| **Telephone:** | 1-888-3M HELPS (1-888-364-3577) |

**1.4. Emergency telephone number**
1-800-364-3577 or (651) 737-6501 (24 hours)

## SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

**2.1. Hazard classification**
Serious Eye Damage/Irritation: Category 2B.
Reproductive Toxicity: Category 1B.

**2.2. Label elements**
**Signal word**
Danger

**Symbols**
Health Hazard |

**Pictograms**

**Hazard Statements**
Causes eye irritation.
May damage fertility or the unborn child.

**Precautionary Statements**

**Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves.
Wash thoroughly after handling.

**Response:**
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF exposed or concerned: Get medical advice/attention.

**Disposal:**
Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

9% of the mixture consists of ingredients of unknown acute oral toxicity.

## SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|---|---|
| Silane Treated Quartz | 100402-78-6 | 35 - 45 Trade Secret * |
| Silane Treated Glass | None | 35 - 45 Trade Secret * |
| 1,2,3-Propanetricarboxylic acid, 2-hydroxy-, reaction products with 2-isocyanatoethyl methacrylate | 1628713-16-5 | 5 - 15 Trade Secret * |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | 25852-47-5 | 5 - 15 Trade Secret * |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | 1565-94-2 | < 2 Trade Secret * |
| Silane Treated Silica | 67762-90-7 | < 2 Trade Secret * |
| Diphenyliodonium Hexafluorophosphate | 58109-40-3 | < 0.5 Trade Secret * |
| N,N-DIMETHYLBENZOCAINE | 10287-53-3 | < 0.5 Trade Secret * |

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

## SECTION 4: First aid measures

**4.1. Description of first aid measures**

**Inhalation:**
Remove person to fresh air. If you are concerned, get medical advice.

**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**
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**
Exposure to extreme heat can give rise to thermal decomposition.

**Hazardous Decomposition or By-Products**

| Substance | Condition |
|---|---|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |

**5.3. Special protective actions for fire-fighters**
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

## 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. 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. 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. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Do not get in eyes. Use personal protective equipment (gloves, respirators, etc.) as required.

**7.2. Conditions for safe storage including any incompatibilities**

Store away from heat.

## 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 SDS.

**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**

| | |
|---|---|
| **Appearance** | |
| **Physical state** | Solid |
| **Color** | Pink |
| **Specific Physical Form:** | Paste |
| **Odor** | Slight Acrylic |
| **Odor threshold** | *No Data Available* |
| **pH** | *Not Applicable* |
| **Melting point** | *No Data Available* |
| **Boiling Point** | *Not Applicable* |
| **Flash Point** | No flash point |
| **Evaporation rate** | *No Data Available* |
| **Flammability (solid, gas)** | Not Classified |
| **Flammable Limits(LEL)** | *Not Applicable* |
| **Flammable Limits(UEL)** | *Not Applicable* |
| **Vapor Pressure** | *No Data Available* |
| **Vapor Density** | *No Data Available* |
| **Density** | 2.1 g/cm3 |
| **Specific Gravity** | 2.1 [*Ref Std:*WATER=1] |
| **Solubility In Water** | < 1 % |
| **Solubility- non-water** | *No Data Available* |
| **Partition coefficient: n-octanol/ water** | *No Data Available* |
| **Autoignition temperature** | *No Data Available* |
| **Decomposition temperature** | *No Data Available* |

| | |
|---|---|
| **Viscosity** | *No Data Available* |
| **Molecular weight** | *No Data Available* |
| **Volatile Organic Compounds** | *No Data Available* |
| **Percent volatile** | *No Data Available* |
| **VOC Less H2O & Exempt Solvents** | *No Data Available* |

## SECTION 10: Stability and reactivity

**10.1. Reactivity**
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

**10.2. Chemical stability**
Stable.

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

**10.4. Conditions to avoid**
Heat

**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 labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.**

**This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.**
**The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.**

**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:**
This product may have a characteristic odor; however, no adverse health effects are anticipated.

**Skin Contact:**
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

**Eye Contact:**
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

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

May cause additional health effects (see below).

**Additional Health Effects:**

**Reproductive/Developmental Toxicity:**
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**Carcinogenicity:**
Exposures needed to cause the following health effect(s) are not expected during normal, intended use:
Contains a chemical or chemicals which can cause 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 |
| Silane Treated Glass | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Silane Treated Glass | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Silane Treated Quartz | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Silane Treated Quartz | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Dermal | Rabbit | LD50 15,500 mg/kg |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Ingestion | Rat | LD50 9,400 mg/kg |
| Silane Treated Silica | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Silane Treated Silica | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| Silane Treated Silica | Ingestion | Rat | LD50 > 5,110 mg/kg |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Ingestion | Rat | LD50 > 11,700 mg/kg |
| N,N-DIMETHYLBENZOCAINE | Dermal | Rat | LD50 > 2,000 mg/kg |
| N,N-DIMETHYLBENZOCAINE | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Diphenyliodonium Hexafluorophosphate | Ingestion | Rat | LD50 32 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Silane Treated Glass | Professional judgement | No significant irritation |
| Silane Treated Quartz | Professional judgement | No significant irritation |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Rabbit | Mild irritant |
| Silane Treated Silica | Rabbit | No significant irritation |

| | | |
|---|---|---|
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Rabbit | No significant irritation |
| N,N-DIMETHYLBENZOCAINE | Rabbit | No significant irritation |
| Diphenyliodonium Hexafluorophosphate | Rabbit | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Silane Treated Glass | Professional judgement | No significant irritation |
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Rabbit | Moderate irritant |
| Silane Treated Silica | Rabbit | No significant irritation |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | In vitro data | No significant irritation |
| N,N-DIMETHYLBENZOCAINE | Rabbit | No significant irritation |
| Diphenyliodonium Hexafluorophosphate | Rabbit | Mild irritant |

**Skin Sensitization**

| Name | Species | Value |
|---|---|---|
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Guinea pig | Not classified |
| Silane Treated Silica | Human and animal | Not classified |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Mouse | Not classified |
| N,N-DIMETHYLBENZOCAINE | | Not classified |

**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 |
|---|---|---|
| Silane Treated Quartz | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Silane Treated Quartz | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Silane Treated Silica | In Vitro | Not mutagenic |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | In Vitro | Not mutagenic |
| N,N-DIMETHYLBENZOCAINE | In vivo | Not mutagenic |
| N,N-DIMETHYLBENZOCAINE | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Diphenyliodonium Hexafluorophosphate | In Vitro | Some positive data exist, but the data are not sufficient for classification |

**Carcinogenicity**

| Name | Route | Species | Value |
|---|---|---|---|
| Silane Treated Quartz | Inhalation | Human and animal | Carcinogenic |
| Silane Treated Silica | 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 |
|---|---|---|---|---|---|
| Silane Treated Silica | Ingestion | Not classified for female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| Silane Treated Silica | Ingestion | Not classified for male reproduction | Rat | NOAEL 497 | 1 generation |

| | | | | | |
|---|---|---|---|---|---|
| | | | | mg/kg/day | |
| Silane Treated Silica | Ingestion | Not classified for development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | during gestation |
| N,N-DIMETHYLBENZOCAINE | Ingestion | Not classified for female reproduction | Rat | NOAEL 600 mg/kg/day | premating into lactation |
| N,N-DIMETHYLBENZOCAINE | Ingestion | Not classified for development | Rat | NOAEL 50 mg/kg/day | premating into lactation |
| N,N-DIMETHYLBENZOCAINE | Ingestion | Toxic to male reproduction | Rat | NOAEL 50 mg/kg/day | 53 days |

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Polyethylene Glycol Dimethacrylate (PEGDMA) | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| Diphenyliodonium Hexafluorophosphate | Inhalation | respiratory irritation | Not classified | Not available | Irritation Equivocal | |

**Specific Target Organ Toxicity - repeated exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|---|---|---|---|---|---|
| Silane Treated Quartz | Inhalation | silicosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL Not available | occupational exposure |
| Silane Treated Silica | Inhalation | respiratory system \| silicosis | Not classified | Human | NOAEL Not available | occupational exposure |
| Bisphenol A Diglycidyl Ether Dimethacrylate (BISGMA) | Ingestion | endocrine system \| hematopoietic system \| liver \| heart \| skin \| gastrointestinal tract \| bone, teeth, nails, and/or hair \| immune system \| muscles \| nervous system \| eyes \| kidney and/or bladder \| respiratory system \| vascular system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 90 days |
| N,N-DIMETHYLBENZOCAINE | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 74 mg/kg/day | 28 days |
| N,N-DIMETHYLBENZOCAINE | Ingestion | liver \| heart \| endocrine system \| gastrointestinal tract \| bone, teeth, nails, and/or hair \| immune system \| muscles \| nervous system \| eyes \| kidney and/or bladder \| respiratory system \| vascular system | Not classified | Rat | NOAEL 900 mg/kg/day | 28 days |

**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 completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

**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** |
|---|
| Reproductive toxicity |
| Serious eye damage or eye irritation |

### 15.2. State Regulations

Contact 3M for more information.

### 15.3. Chemical Inventories

The components of this material are in compliance with the provisions of 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.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

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

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

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

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:** 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.

| | | | |
|---|---|---|---|
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